

**United States Environmental Protection Agency  
Region III  
Corrective Action Program**

**FINAL  
Environmental Indicator Inspection Report  
For**

**Cycle Chem, Inc.  
550 Industrial Drive  
Lewisberry, PA 17339**

**USEPA ID No. PAD067098822**

**Prepared By**

**PADEP and BAKER**

**September 29, 2016**

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## RCRA SITE INSPECTION REPORT

**Purpose:** To gather relevant information from the Cycle Chem, Inc. facility (CCI or facility) in order to determine whether human exposures and groundwater releases are controlled, as per Environmental Indicator (EI) Determination forms.

**Documentation Review:** Prior to the site visit, Michael Baker Jr., Inc. (Baker) personnel conducted an extensive records review of the Pennsylvania Department of Environmental Protection (PADEP) or (Department) South Central Regional Office and the United States Environmental Protection Agency (USEPA) Region III Philadelphia Office files.

### Attendees at Site Inspection:

Site Inspection Date/Location	Name	Organization	Phone Number	E-Mail address
<b>8/22/2014:</b> <b>Cycle Chem, Inc</b> 550 Industrial Dr Lewisberry, PA 17339	John Fetterman	CCI	Now Retired	
	Terry Earnest	CCI	717-938-4700	<a href="mailto:tearnest@cyclechem.com">tearnest@cyclechem.com</a>
	Linda Houseal	PADEP	717-705-4919	<a href="mailto:lhhouseal@pa.gov">lhhouseal@pa.gov</a>
	Charlene Sauls	PADEP	717-705-4959	<a href="mailto:chsauls@pa.gov">chsauls@pa.gov</a>
	Kiah DeSarro	PADEP	717-705-4925	<a href="mailto:kdesarro@pa.gov">kdesarro@pa.gov</a>
	Lisa Wilt	PADEP	Now Retired	
<b>8/26/2014:</b> <b>B&amp;C Fasteners, Inc</b> 550 Industrial Dr Lewisberry, PA 17339	Jim Hoffer	B&C Fasteners	800-382-1430	<a href="mailto:bcfast@msn.com">bcfast@msn.com</a>
	Mike Stayman	B&C Fasteners	800-382-1430	<a href="mailto:bcfast@msn.com">bcfast@msn.com</a>
	Charlene Sauls	PADEP	717-705-4959	<a href="mailto:chsauls@pa.gov">chsauls@pa.gov</a>
	Kiah DeSarro	PADEP	717-705-4925	<a href="mailto:kdesarro@pa.gov">kdesarro@pa.gov</a>
	Lisa Wilt	PADEP	Now Retired	

**Meeting Summary:** A site meeting/inspection was held at the Cycle Chem facility (550 Industrial Drive) with the attendees noted above on August 22, 2014. Before the visit, PADEP provided Cycle Chem with a copy of a draft site report and Internet links regarding USEPA Region III's Corrective Action process, the EI Assessment Program and the legislation driving this program. Under this investigation, USEPA Region III is focusing on two interim EIs to evaluate whether any unacceptable risk to human health and/or the environment is ongoing at each priority facility. The two indicators are determining if human exposures are controlled and groundwater releases are controlled. Prior to and during the site inspection, outstanding issues and discrepancies encountered in the file review summary were discussed. The site visit continued with an overview of areas to be observed and a tour of the facility.

Additionally, on August 26, 2014, a site meeting/EI inspection was held at the adjacent B&C Fasteners, Inc. facility (560 Industrial Drive) because this property was previously owned by Remtech (TSD facility owner prior to Cycle Chem). The site visit included an overview of areas to be observed and a tour of the facility. After the visit, PADEP provided B&C Fasteners, Inc. with Internet links regarding USEPA Region III's Corrective Action process, the EI Assessment Program and the legislation driving this program.

During the August 2014 facility site tours at the 550 and 560 Industrial Drive properties, Areas of Concern (AOCs) and Solid Waste Management Units (SWMUs) noted in the September 27, 1993 *USEPA Final RCRA Facility Assessment* (RFA), in addition to areas noted in the June 29, 1993 *Tethys Remtech Phase 1 Environmental Assessment Report* and the August 5, 1993 *Tethys Remtech Phase 2 Closure Report* were discussed. These formerly documented areas were observed as well as present-day activities. Photographs taken during the site tours are presented in Appendix A: Photographs.

**A. Location and Operational History of the Facility, Including all Wastes Generated at the Facility and their Management**

**1. Location and Operational History**

**a. Site Layout**

The Cycle Chem facility is located at 550 Industrial Drive in Lewisberry, Fairview Township, York County, Pennsylvania. Fairview Township, Pennsylvania had an estimated 2010 population of 16,668, according the US Census Bureau ([www.factfinder.census.gov](http://www.factfinder.census.gov), accessed February 24, 2015). The facility formerly consisted of 10 acres; however, a 4-acre portion of the property directly south of and adjacent to the facility was sold to Federal Express (FedEx) in September 2002. The facility is situated within a light industrial park located approximately 0.4 miles west of Interstate 83 ( Appendix B: Figure 1 - Facility Location Map) within the Fairview Industrial Park. The industrial park was developed from farmland in the mid-1970s. The 550 Industrial Drive facility presently consists of 6 acres of land at the intersection of Industrial and Grandview Drives, and is surrounded by other industrial/commercial facilities. Review of Appendix B: Figure 2 shows industrial-zoned areas and contiguous and nearby facilities as follows:

- 542 Industrial Drive (Immediately to the east) - Bath Fitters manufacturing facility;
- 560 Industrial Drive (Immediately to the west) - B&C Fasteners (formerly operated by American Business Printers and Remtech);
- 540 Industrial Drive (across Industrial Drive and to the north) - part of the Fairview Industrial Park owned by Riva Fairview TIC-11 LLC and had included tenants including Eagle Printing and ABC Fuel Oil;
- 543 Industrial Drive (across Industrial Drive and to the north) – property owned by Cozen Realty and formerly used as a Pfizer, Inc. facility;
- 569 Industrial Drive (across Industrial Drive and to the northwest) - currently CRS Reprocessing Service and formerly owned and operated by the Capital Lubricants Company, Inc. [CLC], parent company for the parts washer division that later became CPW; and
- Immediately to the south - FedEx uses as a distribution facility (this 4 acre property was formerly owned by IWR, REMTECH and CCI). FedEx purchased the property from CCI in September 2002.

Residential properties (Appendix B: Figure 1) in the vicinity of the CCI 550 Industrial Drive facility are also located to the northeast, east, south, and west of the facility. The closest residential area is 0.21 mile to the south on Scully Place. Nearby residential properties include:

- A smaller residential area located to the northeast along Grandview Drive/Circle;
- Residential areas to the northeast to southeast along Wyndamere Road;
- Residential areas to the south-southeast between Kellinger Road and Wyndamere Road; and
- Residential areas to the northwest to southwest along Pleasant View Road.

In 1980, the Industrial Waste Removal, Inc. (IWR) facility plan (Appendix B: Figure 3) for the 550 Industrial Drive property identified one building, eight tanks, parking lot, large asphalted area, septic field and a well. Seven mounded, buried tanks were located south of the asphalt lot, and one underground storage tank (UST) (heating oil) was located northeast of the building, north of the parking lot. The septic field was located north of the building. The well was located at the southwest corner of the building. South of the fence was a large undeveloped portion of the property.

Between 1989 and 1993, Remtech owned both the 550 and 560 Industrial Drive properties (Appendix B: Figure 4). According to the 1993 Tethys reports, the 560 Industrial Drive property occupied 2.1 acres and included a 25,000 square feet office/warehouse structure. Remtech purchased the 560 Industrial Drive property in 1989 and used it initially for offices, general storage and company vehicle maintenance; however in 1991, PADER authorized Remtech to store nonhazardous residual waste in the warehouse. In 1989 three USTs were removed. In 1993, Remtech hired a consultant (Tethys) to perform Phase 1 and Phase 2 environmental assessments and subsequently an UST final closure report, which was approved by PADER after soil and groundwater analytical results revealed constituents of concern below regulatory levels. The 560 Industrial Drive property is presently owned by B&C Fasteners, which is a pneumatic tool and fastener business.

In 1999, CCI purchased the 550 Industrial Drive facility. The ownership transfer occurred on August 18, 1999. The permit ownership was changed concurrently. The property initially consisted of 10 acres; however a 4-acre portion of the property directly south of and adjacent to the facility was sold to FedEx in September 2002. This portion of the property was unused/vegetated throughout the facility's operations and was not developed until sometime after 2010 by the current owner (FedEx).

A major RW permit modification was approved for the CCI facility on August 30, 2001. Construction of a new residual waste processing building was to begin in March 2002.

In 2008, the CCI facility consisted of two separate buildings (Appendix B: Figure 5) – the hazardous waste storage area on the west side of the 6 acre property and the residual waste storage area on the east side. The hazardous waste storage area contained the offices and laboratory, 11 container storage areas (Areas A, B, C1, C2, F, HC1, HC2, HC4, M, O14, and DWW) surrounded by blind sumps and two tank storage areas (Area E1 – ASTs 1 and 2;

Area E2 – ASTs 6, 7, 8, and 9) in containment and surrounded by blind sumps. During this time period, an additional container storage (Area D) and a staging area were proposed outside the east side of the hazardous waste building and an additional tank storage area (Area E3 containing five additional ASTs 11 through 15) was proposed outside the west side of the hazardous waste building. CCI also proposed to install three new ASTs within tank storage Areas E1 (ASTs 3 and 4) and E2 (ASTs 5 and 10). The residual waste building included three container storage areas (Residual Waste – Areas 1, 2, and 3) and three mixing bunkers (aka Pits #1, #2, and #3). Two Dangerous When Wet (DWW) storage areas were located outside and south of the residual waste building. Note: The AST storage Area E3 and three newly proposed ASTs within indoor tank storage Areas E1 and E2 were never installed.

In 2008, access to the facility was via two driveways that entered the property from Industrial Drive. A security fence (chain link with barbed wire on top) and security gates extended across each driveway from the building and surrounded the back of the property. Paved parking areas were available on the north side of the property just outside of the fenced area and on the northwest side of the office building. The property sloped gently to the southeast.

In 2014, the facility layout was similar to the 2008 layout noted above (Appendix B: Figure 5); however a new hazardous waste storage Area D was constructed in 2013 on the south end of the hazardous waste storage building instead of on the originally proposed east side (Appendix B: Figure 6). The new Outdoor/Covered HW Storage Area D includes perimeter trenches to provide secondary containment. A KilnDirect Mixing Box (E4), a self-contained/enclosed box, used to consolidate organic flammable and/or solvent liquids and sludges is located inside the Hazardous Waste building in-between the two indoor tank storage areas E1 and E2 (Appendix B: Figure 5). The trucks now enter through the West gate and are scanned with radiation detection equipment on each side before being unloaded in the old Area D staging area. The materials are then transferred to the new Outdoor/Covered HW Area D Storage Area, which is used as a staging area for wastes received, wastes being moved to facilitate access to other wastes within the indoor storage areas, and wastes being prepared for outbound shipment.

**b. Property Ownership Information - as reported in the September 27, 1993 USEPA Final RCRA Facility Assessment (RFA) and additional documentation from 1993 to present.**

The 550 Industrial Drive facility has been in operation since November 1978 when Mr. James Kohr purchased the 10-acre property and constructed a warehouse and garage building. From 1978 to 1989, the facility was operated by Mr. Kohr under the name Industrial Waste Removal, Inc. (IWR) and was owned by Kohr Enterprises. Prior to development by IWR, the site was used as farmland. In April 1988, IWR notified PADEP that they were selling the hazardous waste treatment and storage facility.

In February 1989, the assets of IWR (550 Industrial Drive) were acquired by REMTECH Environmental Group, L.P., and the facility name was changed to REMTECH Environmental Lewisberry, Inc. (REMTECH). Additionally, REMTECH purchased the adjacent 2.1 acre property located to the west at 560 Industrial Drive (referred to as the Keller Building/Property, or the Lasker Building, in some documents), see Appendix B: Figure 4. The Keller Building was a warehouse that was used as a showroom for office supplies and a product storage area prior to REMTECH's purchase of the property. Facility representatives stated that the Keller property was also farmland prior to construction of the building. In October 1991, REMTECH began storing residual waste in the Keller Building, and as a

result, referred to it as the Residual Waste Building. REMTECH sold the 2.1 acre property located at 560 Industrial Drive property to BBH in August 1993. The B&C Fasteners facility presently operates at the 560 Industrial Drive property.

On January 20 1999, PADEP reissued the RW permit for the 550 Industrial Drive property due to a Permittee name change from REMTECH Environmental Lewisberry, Inc. to REMTECH Environmental (Lewisberry), L.P. as a result of consolidation of ownership and companies within the REMTECH Group.

In August 1999, CCI purchased the 10 acre 550 Industrial Drive property from REMTECH. The facility is currently operated by CCI, a New Jersey corporation. CCI is owned by Witte-Chase Environmental Resources (Elizabeth, New Jersey), which is an equal partnership between John Arnold Witte and Chase Trust Partnership (Stamford, CT). CCI is a sister company with Clean Venture, Inc. (Elizabeth, NJ), and General Chemical Corporation (Framingham, MA). CCI was incorporated in October of 1984. Its goal was to locate and purchase facilities licensed to perform disposal of hazardous waste materials. In September 2002, CCI sold the southern four acres of the property to FedEx. As a result, the CCI property was reduced to the extent of about 6 acres.

**c. Operational History**

**1) IWR**

IWR filed the first Notification of Hazardous Waste Activity on July 18, 1980 and the initial Part A hazardous waste application on November 4, 1980. A revised Part A application was effective dated May 20, 1983. USEPA confirmed IWR's amended interim status by letter dated July 28, 1983. Operations were conducted under USEPA ID No. PAD067098822 and transporter license AH 0146.

According to their Part A hazardous waste permit application dated May 20, 1983, IWR was a contractor providing specialized services for heavy industry, government and transportation offering high power vacuum truck services (dry or liquid), complete baghouse maintenance services, high volume sludge/slurry pumping, tank hauling, vacuum tanker service, tank cleaning (manual and automatic techniques), oil spill recovery high pressure water blasting, gas and lead freeing of tanks, explosion proof equipment, fresh air breathing apparatus, and industrial services supervision and labor crews. IWR operated out of one 9,000-square-foot building situated on approximately 10 acres of land located in the Fairview Industrial Park at 550 Industrial Drive, Lewisberry, Pennsylvania. The building consisted of an office, a receiving area, and a storage area in the northern half of the building and equipment storage in the southern half of the building. The equipment storage area contained two trenches; one located along the west wall and the other along the east wall. The west trench accepted heels and residuals from rinsing of the equipment. The east trench accepted engine oils and coolants, as well as, the contents normally contained in the west trench, if needed.

IWR transported hazardous materials to approved disposal facilities, and temporarily stored hazardous liquid materials in five mound-buried storage tanks with total capacity of 90,000 gallons. IWR also solidified hazardous waste sludges using different types of dust (cement dust, lime, and other inert and delisted dusts, and if appropriate, forest products) in 15 cubic yard batch lots to reduce the liquid content of the wastes for adequate disposal in a secure landfill. In 1983, the solidification was conducted in



rolloff containers at the facility; in 1988, it was reported that sludges were normally solidified at the generator's site (REMTECH Environmental Group, L.P., [REMTECH]). Trucks were cleaned at the facility after each assignment. Wastes were contained in a concrete sump in the building. The wastes were removed and disposed offsite. Truck maintenance was also performed on site; the waste oils were disposed offsite. Asbestos and polychlorinated biphenyls (PCBs) were reportedly not handled by IWR. No disposal activities were conducted at the facility.

## 2) **REMTECH**

As noted in the 1993 Tethys reports, REMTECH purchased the 10 acre facility at 550 Industrial Drive (lot 17) from IWR and the adjacent warehouse building located to the west at 560 Industrial Drive (lot 16) in 1989, see Appendix B: Figure 4. REMTECH continued to operate the IWR facility as a hazardous and residual waste transfer and storage facility and used the 560 Industrial Drive property (also referred to as the Keller Building) for offices, general storage and company vehicle maintenance. In October 1991, REMTECH was authorized by the Pennsylvania Department of Environmental Protection (PADEP, or its predecessors) to store nonhazardous residual waste (including industrial residues, discarded or outdated commercial products, contaminated soils, and limited quantities of sewage sludge (i.e., special handling waste) in the Keller Building, which was used for those purposes until it was sold to BBH in August 1993. Prior to 1991, the residual waste storage and transferring operations were outside (Residual Waste Facility Application, March 29, 1991). At the 550 Industrial Drive facility, REMTECH constructed a 7,000-square-foot addition to the existing 9,000-square-foot building and extensively upgraded storage, containment, and security systems in accordance with the Consent Order and Agreement (COA) between IWR and PADEP, dated January 26, 1989. The upgrades were substantially completed by 1990, see Appendix B: Figure 7 and Figure 8.

The Keller Building occupied 2.1 acres, upon which was situated an office/warehouse structure, approximately 25,000 square feet in size. The Keller property is believed to have originally been farmland that was developed as an industrial park in the mid-1970s. The warehouse building was constructed in 1975 and leased by Keller Industries, Inc., who used it as a warehouse/showroom for building and office supplies. A septic tank was located on the northwest corner of the building and was reportedly used for domestic waste from the building bathrooms and sinks. It was reported that the Keller Building was always serviced with public water.

REMTECH received both hazardous and residual (nonhazardous) waste materials in bulk and drum quantities from hundreds of waste generators representing a wide range of industries and agencies. The waste materials were delivered to the facility in company vehicles or by outside contractors, then were stored in containers or tanks until a sufficient quantity was obtained to ship to an offsite treatment facility, recycling facility, or final disposal facility. No disposal activities were conducted at the facility. Prior to shipment offsite, compatible wastes may have been consolidated together. Hazardous waste operations, including container storage, tank storage, and waste consolidation, were conducted indoors at 550 Industrial Drive. The drum storage area contained several segregated areas with individual secondary containment to prevent co-mingling of incompatibles in the event of a spill. Indoor aboveground storage tanks (ASTs) were utilized for bulk storage of a variety of hazardous and nonhazardous liquids. Bulk storage of flammable liquids was in ASTs with a nitrogen blanket. In 1998, drums were

stored on wooden pallets on both sides of the inside storage area. REMTECH was handling approximately 300 to 600 drums per week. A 'dead well' was located in this area near the outside doors that collected all wastes that may be spilled on the floor. Six tanks were located in a separate room in two diked areas. Tanks 1 and 2 (used to store flammable liquids) were situated within one of the diked areas; tanks 6 through 9 were situated in the other. Samples were collected from different levels of the tanks and analyzed by the onsite laboratory. When tank trucks arrived at the facility, they parked near the center door between the tanks in this room. Hose connections on the tanks ran from each tank to the truck, at which time the tank truck was unloaded. A metal box was present at the hose connections to collect leaks. Drums were also stored across from the tanks. Most of the drums stored outdoors on the asphalt contained nonhazardous wastes. However, there was one area near the fence where flammable solids were stored in a white metal shed. Temporary in-transit storage occurred outside within concrete secondary containment. Residual waste operations, including container (drum) storage, solids bulking (into rolloff containers), and stabilization, were conducted at 550 Industrial Drive site as well as the 560 Industrial Drive site.

REMTECH surrounded the facility with sealed-jointed concrete. The concreted area is diked and sloped toward the stormwater retention pond (sometimes identified as a lagoon), a high density polyethylene (HDPE), chemically-resistant-lined, 500,000-gallon pond installed with the approval of PADEP to collect stormwater from the exterior areas of the facility and to act as secondary containment for outdoor activities (e.g., truck transportation, residual waste storage). REMTECH routinely sampled/analyzed the pond water prior to discharge under an interim Stormwater Management Plan, Stormwater Management Plan (dated November 8, 1990), and then later under a National Pollutant Discharge Elimination System (NPDES) permit (PA0084107). The stormwater management plan was revised many times to reflect facility operation changes.

A Resource Conservation and Recovery Act (RCRA) facility visual site inspection (VSI) was conducted on February 25, 1992 at both the 550 and 560 Industrial Drive facilities operated by REMTECH for the September 27, 1993 *Final RCRA Facility Assessment (RFA)*. Numerous solid waste management units (SWMUs) and areas of concern (AOCs) were inspected at both properties, see Appendix B: Figure 9 and Figure 10. The RFA was conducted by A.T. Kearney, Inc. (ATK) for the USEPA. On April 21, 1994, in a letter from the USEPA to REMTECH, the RFA indicated there had been no release of hazardous waste or hazardous constituents from the facility.

Residual waste has been stored and transferred in appropriately designated areas, and the October 1998 application included provisions for all storage and processing operations in exterior areas in accordance with the Department's residual waste regulations. REMTECH previously submitted a residual waste application in August of 1994 for the facility. The operations area for storing and handling nonhazardous industrial wastes would occur within the existing secondary containment system. The modifications would include the following operations: (1) processing (transfer and solidification) of nonhazardous industrial waste from containers to out-bound vehicles, piles, and double-walled tanks; (2) processing of containers to facilitate removal of residual waste; (3) processing of empty steel drums for recycling; and (4) storage of residual waste in containers and double-walled tanks.

Processes were small in scale and run on an as-needed basis. Bulking into rolloff containers and dump trailers occurred on a container lot basis (20 to 50 containers), up to

several times per day. Drum containers were measured and recorded by size and quantity and rolloff containers were measured by size. Bulk loads were also weighed using portable scales at the facility. Wastes were transferred to permitted nonhazardous landfill facilities.

In 1998, REMTECH was permitted to store 285,890 gallons of hazardous waste (or its equivalent in solids) in containers and 120,953 gallons of hazardous waste in tanks in accordance with their final hazardous waste permit (PAD067098822) dated February 16, 1993 (effective through February 15, 2003). Permitted treatments, processes, and recycling operations included lab pack unpacking/consolidation, liquid hazardous waste fuels blending, solid and liquid hazardous waste consolidation, filtration of lead bearing liquids, neutralization of characteristic wastes, electrolytic precipitation of silver-bearing liquids, solid hazardous waste fuels blending, chemical precipitation of characteristic wastes, and stabilization of characteristic wastes. Hazardous wastes accepted at the facility included 417 F-, K-, U-, and P-listed waste types. REMTECH was also permitted to process (stabilize) sludges and store approximately 203,500 gallons (or equivalent in solids) of residual waste in bulk and non-bulk containers in accordance with their residual waste permit (301280) dated April 17, 1997 (amended October 31, 1997 and effective through April 17, 2007). Nonhazardous residual waste accepted at the facility include used oils for recycling into fuels to be burned for energy recovery, industrial filter cakes and sludges, petroleum-contaminated soils, process wastewaters, spent/contaminated coolants, RCRA-excluded household hazardous wastes, spent blasting grits, hardened (inert) paints and resins, tank cleaning wastes, etc. In October 1998, a shredder was added to increase the efficiency of removal of liquid and solid wastes. Discussions with Cycle Chem during the August 22, 2014 EI Inspection, revealed that the shredder was a towed unit and used for tree limbs and lead contaminated debris. The unit was used approximately three times prior to it being destroyed and it was never replaced. REMTECH was authorized under USEPA approval dated August 1, 1997 (effective through October 1, 2000), to accept for storage and consolidation all forms of PCB wastes in containers and electrical equipment; REMTECH was also an authorized PCB hauler. Other permits held by REMTECH included an air permit (67399016) and an NPDES permit for stormwater discharges (PA0084107). REMTECH was also approved for in-transit storage of hazardous wastes for up to 10 days.

### 3) CYCLE CHEM, INC.

Clean Venture, Inc., a Witte Chase Environmental Resources, Inc. affiliate, purchased the REMTECH facility. The ownership transfer occurred on August 18, 1999. The permit ownership was changed concurrently. Operations continued as Cycle Chem, Inc. (CCI), a sister-company with Clean Venture, Inc. (Clean Venture).

Their hazardous waste treatment/storage/disposal (TSD) permit allows storage for one year in containers and tanks. CCI also performs repacking of some lab pack waste and bulks some waste into tanks or tank trucks for offsite management of the waste. The facility has numerous options for managing wastes received and that decision is made based on the waste profile, compatibility, and disposal sites. CCI also manages a 10-day transfer facility for Clean Venture (sister company) for waste not approved in their permit or for wastes better managed at another location. The 10-day in-transit area is noted on Appendix B: Figure 6. No treatment of hazardous waste is conducted at the facility. The facility has an outside staging area and processing area. Drums are sampled, relabeled, and sorted in the outdoor processing area adjacent to the warehouse prior to

transfer to the warehouse, which contains space for storage and processing of containerized waste. Several blind sumps covered with metal grates are present inside of the warehouse storage area. Empty containers and totes are stored within the southern end of the curbed/concrete outdoor containment area, as are two storage sheds for water reactive wastes. A separate building is used to manage residual wastes. A number of pits are used to mix residual waste with adsorbent material before transport to the disposal location. A quality control laboratory is also located on site that verifies that the waste in the container matches the waste on the preapproved profile. (USEPA RCRA Compliance Evaluation Inspections [CEI] December 5, 2006)

In August 2001, CCI was storing oil/water residual waste in three indoor ASTs, flammable hazardous wastes in two indoor ASTs, and basic hazardous waste in one indoor AST. Four additional permitted ASTs were to be installed.

A major permit modification was approved on August 30, 2001. Construction of a new residual waste processing building was to begin in March 2002. In 2002 (October 7, 2002 inspection), CCI was storing oil/water residual wastes in ASTs 6 and 8, flammable hazardous wastes in ASTs 1 and 2, and corrosive hazardous wastes in ASTs 7 and 9.

In 2007, the facility consists of a 6 acre parcel of land (formerly 10 acres until CCI sold the 4 acres south of the stormwater retention pond to FedEx in September 2002). The entire facility is surrounded by fencing. The front gate remains closed except to gain access. The entire outside facility is sloped to five storm drains that lead to the stormwater retention pond (SWMU 1), which is constructed with a synthetic liner. The effluent valve is normally closed except for discharge under the facility's NPDES permit. The valve is closed during processing of wastes and opened at night and during rain events. Curbing or sloped pavement are used to ensure runoff leads to the pond. (USEPA RCRA CEI December 5, 2006)

CCI's process includes:

- Generators submit waste profiles prior to shipment of wastes to CCI.
- Incoming waste is off-loaded to an open uncovered area near the main gate (10-day transfer area of the facility) and stored directly on the ground surface (asphalt/concrete) or on pallets.
- Upon arrival, the waste is inspected and verified; the waste containers are unloaded and given a bar code, and then sampled. Like wastes may be composited before analysis.
- After analysis, the waste is moved from the outside staging area to one of the segregated storage areas inside of the warehouse.
- Flammable wastes are bulked into ASTs 1 and 2; nonflammable wastes (caustic and oil wastes) are bulked into ASTs 6, 7, 8, and 9. These ASTs are subject to air emissions regulations. CCI maintains an air permit for the ASTs.

- Bucket tests are performed before combining wastes and additional sampling is done after bulking wastes in tank trailers to ensure wastes are compatible and consistent with disposal criteria.
- PCB waste is not accepted. When present, PCB wastes are stored for no more than 30 days before being transported to another location that can manage the waste.

Hazardous wastes are treated by stabilization, deactivation, and/or neutralization. Hazardous wastes are stabilized by mixing with additives and other suitable liquids (such as water) in Area D1 (renamed as Areas C1 and C2 per 9/26/08 HW Permit). The stabilization process involves hydration, neutralization, precipitation, and crystallization reactions. Free liquids, if present, are pumped off the incoming waste into a container or storage tank. The solids are blended with cement kiln dust and/or lime or other suitable reactant. The stabilized wastes are then loaded onto trucks for offsite disposal at a landfill. Deactivation is designed to remove the characteristic of reactivity for sulfide bearing wastes by adding a reducing agent (such as sodium hypochlorite). Deactivation is performed in chlorination units (containers, rolloffs, pits, etc.) in Area D1 (renamed as Areas C1 and C2 per 9/26/08 HW Permit). Neutralization is designed to remove the characteristic of corrosivity from the wastes. The neutralization process is conducted in neutralization units (containers, rolloffs, pits, etc.) within the permitted hazardous waste facility by mixing other waste materials or virgin chemicals with the waste to be treated.

Other processes conducted at the facility include blending of compatible liquids, solids, or semi-solids; solids, liquids, or semi-solids fuels blending; unpacking and repackaging; blending with electrical pneumatic, or fuel powered equipment; solidification; phase separation; and crushing/compacting. Blending of compatible liquids or solids occurs in the tank storage area or adjacent aisle areas (larger quantities are blended in the stabilization area). Liquid fuel blending is conducted in tanks. Depacking/repackaging takes containers containing a variety of wastes and segregates them into compatible groupings for offsite disposal or onsite treatment or blending.

CCI has been working with USEPA's Toxic Substances Control Act (TSCA) program and PADEP's Waste Management Program in order to amend their RCRA permit to allow for the long term storage of PCB wastes.

CCI currently operates under the following permits and licenses:

<b>Permit Type</b>	<b>Permit Number</b>	<b>Expiration Date</b>
Hazardous Waste Permit (treatment and storage)	PAD06798822	Issued February 16, 1993/expired February 15, 2003. Permit application August 1, 2002, modified by subsequent amendments dated February 14, 2003, May 27, 2004, December 23, 2005, May 11, 2006, January 3, 2007, January 22, 2008, and September 26, 2008/expires September 25, 2018
Residual Waste Processing Permit	301280	April 15, 2017
NPDES Permit	PA0084107	October 31, 2019
State Only Operating Permit (Air Emissions)	67-03046	October 1, 2015
Transporter License	AH-0146	

## 2. Waste Types and Quantities

The facility maintains both hazardous waste and residual waste permits. They have been/are permitted to handle a variety of waste codes that change frequently based on facility operations. Some examples are identified below.

Hazardous waste identified in IWRs November 6, 1980 Part A hazardous waste permit application were waste codes K052 (17,000 gallons/year) and F010 (10,000 gallons/year).

Hazardous wastes identified in IWRs May 20, 1983 Part B hazardous waste permit application include:

D001	F005	F012	K008	K069
D002	F006	K002	K048	
D008	F007	K003	K049	
F001	F008	K004	K050	
F002	F009	K005	K051	
F003	F010	K006	K052	
F004	F011	K007	K061	

On January 16, 1990, PADEP (Air Quality Control) received the application for plan approval to construct a new source/operation permit for hazardous waste storage tanks at REMTECH. It identified the following wastes accepted at the facility.

D001	D009	F005	F012	K007	K060
D002	D010	F006	K001	K008	K061
D004	D011	F007	K002	K048	K062
D005	F001	F008	K003	K049	K069
D006	F002	F009	K004	K050	K086
D007	F003	F010	K005	K051	K087
D008	F004	F011	K006	K052	K100

Hazardous wastes identified in the May 9, 1990 Notification of Hazardous Waste Activity form and/or the May 8, 1990 Waste Transporter Permit Application include:

D001	D002	D004	D005	D006	D007	D008	D009	D010	D011
F001	F002	F003	F004	F005	F006	F007	F008	F009	F010
F011	F012	K001	K002	K003	K004	K005	K006	K007	K008
K048	K049	K050	K051	K052	K060	K061	K062	K069	K086
K087	K100	X721	X722	X723	X724	X725	X727	X728	X900

The following hazardous waste code lists are attached for certain time periods:

- Attachment C – February 19, 1992
- Attachment D – February 16, 1993
- Attachment E – November 20, 1996
- Attachment F – September 26, 2008
- Attachment G – 2012
- Attachment H – 2013 – Revised PPC Plan
- Attachment I – 2016

### **3. Permit and Regulatory Action History**

#### **a. Hazardous (PAD067098822) and Residual (301232 and 301280) Waste Permits**

##### **1) IWR**

IWR submitted the first Notification of Hazardous Waste Activity to the USEPA on July 18, 1980. It listed generation, transportation, treat/store/dispose, and underground injection as the types of hazardous waste activity. The following USEPA hazardous waste codes were listed: F001, F006, F010, F012, K049, K051, K052, K061, K069, P011, P012, P110, P120, U013, U154, D001, D002, and D000. The underground injection activity was removed by IWR's letter dated July 28, 1981, which indicated that the injection well was actually the facility's septic tank which received only human waste.

The initial Part A hazardous waste permit application was submitted to the USEPA on November 6, 1980. It identified the facility as beginning operations on November 13, 1978. The facility's legal owner was Kohr Enterprises. IWR described themselves as a contractor providing specialized services for heavy industry, government and transportation offering high power vacuum truck services (dry or liquid), complete baghouse maintenance services, high volume sludge/slurry pumping, tanker hauling, vacuum tanker service, tank cleaning (manual and automatic techniques), oil spill recovery, high pressure water blasting, gas and lead freeing of tanks, explosion proof equipment, fresh air breathing apparatus, and industrial services supervision and labor crews. On occasion, IWR transported hazardous materials to an approved disposal facility, and temporarily stored hazardous materials in five onsite mound-buried tanks with total capacity of 90,000 gallons. Two wastes types were identified: K052 (17,000 gallons) and F010 (10,000 gallons). The process code was S02 (storage in tanks) with total capacity of 90,000 gallons. Appendix B: Figure 11, the topographic map included in the submission, identified six wells within 0.25 miles of the facility.

On August 6, 1981, IWR was issued interim status to manage K052 and F010 hazardous wastes; the total capacity was 90,000 gallons.

IWR submitted the revised Preparedness, Prevention, and Contingency (PPC) Plan on June 8, 1982 (original PPC plan was dated April 28, 1982 [both noted]). The PPC plan was revised many times to reflect facility operation changes.

On May 24, 1983, IWR sent the USEPA revisions to the Part A hazardous waste permit (dated May 20, 1983) and Part B applications. On July 12, 1983, PADEP requested IWR submit the Hazardous Waste TSD Application checklist. On July 19, 1983, IWR submitted a revised Part A hazardous waste permit application to PADEP requesting interim status for all USEPA waste numbers and processes listed in their revised Part A and B applications prior to the approval and permitting of the applications. Process code T04 (other treatment – solidification, 15 cubic yard quantity) was added, as well as various waste codes. IWR sent PADEP the Contractual Consent of Landowner form on December 12, 1983 listing Kohr Enterprises as owner of the 10 acres of land on which

IWR was operating.

The USEPA issued IWR amended interim status for 90,000 gallons in tanks (S02) and 3,000 gallons per day other treatment (T04) on July 28, 1983. Wastes permitted to be accepted included:

D001	F005	F012	K004	K050
D002	F006	F013	K005	K051
D008	F007	F014	K006	K052
F001	F008	F015	K007	K061
F002	F009	F016	K008	K064
F003	F010	K002	K048	K065
F004	F011	K003	K049	K069

On January 23, 1985, a site visit was conducted at the IWR facility to gather additional information to address the USEPA's technical comments of IWR's Part B hazardous waste permit application. In attendance were the USEPA, PADEP, and IWR. It was noted that parts of the facility that should be regulated under RCRA were not addressed in IWR's Part B application. These included the indoor concrete trench used to solidify residue and wash water from tank trucks (should be regulated as a tank), the small (approximately 500 gallons) indoor tank with the side removed that received hose drippage, the outdoor rolloff container storage area, and the proposed lime treatment of wastes in rolloffs using a clamshell. The USEPA requested information on the facility's solid waste management units (SWMUs) on March 8, 1985; a reminder letter was sent to IWR on July 5, 1985 indicating that no response would result in enforcement actions. The facility responded on January 17, 1986 to both of the USEPA's request.

On March 29, 1985, IWR submitted to the USEPA major revisions to the Part A hazardous waste permit application and Exhibits D, E, F, and H of the Part B hazardous waste permit application as a result of the January 23, 1985 USEPA/PADEP facility visit. Process codes identified at the facility included S01 (storage in containers, 275 cubic yards), S02 (storage in tanks, 90,000-gallon), and T04 (other treatment, 15 cubic yards). The T04 process consisted of solidification of wash bay sludge containing trace of American Petroleum Institute (API) separator sludge, heavy metals from steel mills, chemical plants, etc. that was generated as a result of cleaning out vacuum trucks and tankers. The wet sludge was thoroughly mixed and solidified with dust that included cement dust, lime, and other inert and delisted dusts, and if appropriate, forest products. Silos for holding working quantities of dust would be erected on the specific concrete pad in the solidification area.

Solidification was accomplished in a rolloff container that was equipped with a leak-tight gasketed rear door. The rolloff was situated on a concrete pad off the existing paved area outside of the southeast corner of the building. Mixing and solidification were completed in a clam shell bucket arrangement until there was no free liquid. Once the solidification procedure was completed, the rolloff container was tarped and shipped offsite for disposal. IWR was also considering other methods of dewatering such as filter press techniques.

Wastes generated at the facility in 1985 were similar to those approved in the USEPA's July 28, 1983 amended interim status letter. However, the following USEPA hazardous



waste codes were added: D004, D005, D006, D007, D009, D010, D011, K001, K060, K062, K087, and K100. The following waste codes were deleted: F013, F014, F015, F016, K008, K064, and K065. (Note: A May 29, 1985 USEPA inspection report noted the presence of one 250-gallon container containing PCB rinse and kerosene, a few empty drums (some rusted) were standing on the ground outside in the yard, and no groundwater monitoring program was in place as the purpose of the stormwater retention pond was to collect water draining from underneath the mounded USTs).

Eight storage tanks were located on site: four 20,000-gallon and four 10,000-gallon storage tanks. The revised *July 1, 1986 IWR Closure and Removal of Existing Underground Storage Tanks Report* documented the tank locations and materials stored within them, see Appendix B: Figure 7 for the tank locations. The tanks were "mound" buried, had no draw-off fittings, no pipes that could be syphoned and had to be pumped out. The tanks were assigned to the categories of materials each could store. When a tank reached transport load level, the contents were scheduled for removal to an approved disposal facility. The 20,000-gallon tanks held approximately four transport loads; thus there were adequate surge and safety factors. Wastes were "generated" to the extent of mingling of compatible wastes. Tanks #1 through #4 (all 20,000-gallon) and Tank #8 (10,000-gallon) were used to store wastes including dirty light (No. 2) oil, filtered light oils, dirty heavy (No. 5 and No. 6) oils, dirty wastewater not acceptable to sewage treatment plants received from industrial plants that could not effectively process these wastewaters, and gasoline sludge (a maximum storage capacity of 90,000 gallons). Tank #5 stored product diesel fuel, Tank #6 and Tank #9 stored product gasoline, and Tank #7 stored product heating oil for the building. No pollution incidents were identified for the facility.

On January 28, 1986, the subsequent notification of hazardous waste activity identified the facility as a generator, transporter, treater/storer/disposer, and a generator marketing to burner hazardous waste fuel. The used oil fuel activities were off-specification used oil fuel (generator marketing to burner) and specification used oil fuel market. The waste fuel burning type of combustion device was an industrial boiler (recycled petroleum hydrocarbons only). Hazardous wastes identified included F001, F002, F003, F005 and F030 (nonspecific sources) and U001, U002, U003, U019, U031, U037, U220, U221, U044, U108, U112, U117, U122, U124, U140, U154, U080, U159, U161, U165, U188, U196, U210, U220, U226, U228, U239, U057, and U227 (commercial chemical product).

A PADEP inspection report dated March 11, 1986 indicates that IWR had paved the area between the two groups of mound-buried tanks. The entire paved parking area sloped to this area. During off-loading, the pipe through the dike was plugged. Waste-containing rollofs were kept on the impervious surface. In addition, PADEP had agreed that the trench wastes and rinse waters could be shipped offsite as nonhazardous waste as long as analysis documented no hazardous constituents were present.

On March 27, 1986, IWR contacted PADEP stating that they would be ceasing acceptance of hazardous wastes for storage and would be closing the TSD capability in accordance with the closure plan included in the Part B of the hazardous waste permit application, Revision 1, dated March 29, 1985. IWR would continue to operate as a contractor, hazardous waste transporter, and hazardous waste generator. IWR requested temporary suspension of this letter on April 23, 1986 and stated they were currently phasing out the use of the tanks.

On June 25, 1986, PADEP informed IWR that soil samples should be collected after removal of each of the five tanks (Tanks #1 through #4 and Tank #8). The samples should be analyzed for metals, organics, and inorganics. The rinsewater from the third rinse for each tank should also be analyzed for volatile organic compounds to verify the tanks were appropriately decontaminated. On July 1, 1986, IWR submitted a revised closure plan for partial closure of the tanks, adding additional analytes to the rinsewater analysis. The tanks were to be replaced with ASTs in individual steel containment. The tanks were removed in November 1986. No contamination of the soils beneath the tanks was reported, and the partial closure was certified to have been completed in accordance with the approved closure plan by IWR's consulting engineer. PADEP approved the closure on March 6, 1987 (discussed in *Section B.7 - Investigations and Remedial Actions to Date*).

On April 17, 1987, April 29, 1987, and again on May 6, 1987, PADEP responded to the facility's March 23, 1987 letter requesting confirmation that replacement of the tanks with ASTs was a permissible interim status modification. The removal was directed by PADEP to eliminate unacceptable risk to the environment posed by tanks. The design of the existing tanks would not allow for proper inspections, monitoring of releases, and the capability to contain a release. The replacement tanks would not result in treatment or storage of a hazardous waste not specified in Part A of the hazardous waste permit application, or exceed the design capacities specified in the Part A of the hazardous waste permit application. Therefore, the removal of the tanks did not result in the loss of IWR's interim status for treatment and storage in tanks. As a result, the interim status remained in effect for the activities contained in the March 29, 1985 Part A application. However, prior to construction of the ASTs, an amended Part B permit was required and the design approved by PADEP. PADEP understood that the tanks accepted wastes brought in by tanker trucks and the wastes were treated by mixing compatible wastes in the tanks. The liquids were decanted by phases and solids were removed for further treatment or disposal.

On April 29, 1987, PADEP notified IWR that the interim status continued to be in effect for all the activities that were contained in the Part A hazardous waste permit application dated March 29, 1985 (Revision 2).

A letter to IWR's customers dated February 28, 1989 stated that IWR had become part of the REMTECH Environmental Group.

## 2) **REMTECH**

On January 26, 1989, PADEP issued a COA to IWR for violations observed during an inspection conducted by PADEP on October 20, 1988, which were communicated to IWR in the NOV dated November 3, 1988. REMTECH sent PADEP a proposal for an improved indoor storage (SWMU 4) facility on January 23, 1989 (and subsequent revisions). On June 7, 1989, PADEP determined the proposal satisfactory but required REMTECH to perform any additional soil sampling if required by PADEP to verify that the previous outdoor storage area was free of contamination and submit the analysis to PADEP for approval prior to placing concrete over the area. See *Section B.7.g – Benatac Associates September 1989 Soil Sampling Report* for a summary of the results.

On February 13, 1989, PADEP notified the facility that commercial hazardous waste treatment, storage, or disposal facilities were required to provide written notice to landowners within 2,500 feet of the facility informing them of their right to have quarterly sampling and analysis conducted of their private water supplies in accordance with the Hazardous Sites Cleanup Act (HSCA) referred to as Act 108.

On March 14, 1989, PADEP provided comments concerning REMTECH's proposal to modify the existing facility. Benatec Associates (Benatec) responded on behalf of REMTECH on April 19, 1989. The existing building would be converted to laboratory facilities with the existing offices being moved to a building on the adjacent property (560 Industrial Drive, Keller Building). The new office building was approximately 200 feet from the proposed storage facilities. The proposed 7,000-square-foot expansion was located adjacent to the existing 60- by 50-foot storage building. The new area was divided into four main quadrants consisting of two drum storage areas (A and B) located in the eastern portion of the building and two bulk (tank) storage areas in the remaining quadrants. Each drum and bulk storage area had an individual spill containment system. The aisles separating the four independent storage areas were sloped toward a spill containment sump in the center of the building. Drum Storage Area A was for flammable material storage; Drum Storage Area B was for nonflammable material storage. Bulk (tank) storage was in eight 7,500-gallon vertical steel tanks and four 6,000 polyethylene tanks. All tanks were elevated four feet above the floor. Containment capacity for both Tank Storage Area A and Tank Storage Area B was 7,500 gallons each; each containment area had its own spill containment system and independent piping. The response document also outlined the REMTECH's waste acceptance and quality control procedures, and provided details on the design of the stormwater retention pond.

By letter dated June 23, 1989, PADEP was informed by counsel for REMTECH that shortly after REMTECH acquired the IWR facility, four rolloff containers left by IWR were discovered on site. Counsel for IWR submitted analytical results for testing performed on the materials contained in the containers along with the IWR prior owner's description of the contents. The rolloffs were temporarily labeled as hazardous and were moved to an area underlain by macadam.

On February 14, 1990, RT Environmental Services, Inc. (RTES) certified for use the hazardous waste container storage area. A two-color floor coating system was installed which provided an impermeable base and a high degree of wear resistance in the drum storage area. Use of the two-color coating system allows for immediate detection of significant wear such that a new topcoat can be applied in a timely manner. Additionally, PVC was used as a water stop material in the trenches due to its resistance to the various classes of chemicals being handled in the area. On August 7, 1990, PADEP approved the certification for the indoor hazardous waste tank storage area. On March 2, 1990, REMTECH provided PADEP with the amended schedule for the stormwater retention pond liner installation, completion of caulking of construction joints in the parking area, and the tank installation. On April 18, 1990, REMTECH requested to amend the Part A hazardous waste permit application to reflect improvements at the facility.

On May 14, 1990, REMTECH submitted a Notification of Hazardous Waste Activity form to the USEPA changing the name of the facility to REMTECH Environmental Lewisberry, Inc. The name change was due to REMTECH's acquisition of IWR's assets. PADEP was notified of the name change on May 22, 1990. REMTECH notified PADEP on November 13, 1990 that they had received verification from the USEPA of the name

change. REMTECH identified the facility as a generator, transporter, and treater/storer/disposer of hazardous waste; generator marketing to burner or other marketer of hazardous waste fuel and off-specification used oil fuel; and/or a specification used oil fuel marketer. Various D-, F-, X-, and K-listed wastes were identified.

On June 12, 1990, PADEP granted approval to begin construction of the stormwater retention pond (SWMU-1) outlined in the June 1 and 8, 1990 submissions. On June 25, 1990, RTES provided partial certification for the pond.

On July 17, 1990, PADEP re-notified Remtech (first notification on February 13, 1989) that they were required to inform property owners within 2,500 feet of the facility of their right to have their drinking water wells tested quarterly by Remtech in accordance with Act 108. The Department requested that Remtech demonstrate that local property owners had been notified within 30 days. The Department also requested copies of analytical reports of any wells which had been sampled pursuant to the Act and copies of results for any future analyses.

On July 23, 1990, RTES certified for use the exterior pad area for six hazardous waste storage tanks. The two tanks suitable for solvents service are American Society of Mechanical Engineers (ASME) pressure vessels and were designed as such; the remaining are four oil/water/aqueous waste storage tanks. On August 7, 1990, PADEP approved the certification for the tanks.

On July 31, 1990, REMTECH submitted a revised Part A hazardous waste permit application to the USEPA to document the change from UST to AST storage and installation of improved container storage area. Additionally, new toxicity characteristic waste codes that were to become effective on September 25, 1990 were added to the application.

A letter dated August 7, 1990 from PADEP certified that REMTECH had substantially fulfilled its obligation under the January 1989 COA for the indoor tanks storage portion of the facility and may begin using that portion of the facility.

A Remtech letter dated August 17, 1990 documented that certified mail, return receipts were available for 88 residents per the Department's (HSCA) Act 108. Forty-six residents chose to have their private well sampled. Twenty private wells had been sampled to date, 12 were to be sampled in August, and 10 were to be sampled in September. Four locations were subsequently removed from the Act 108 list: two because they had been connected to public water and two because they were beyond the 2,500-foot radius.

On September 28, 1990, RTES supplied the facility with the certifications report for the construction of the new facilities and the repair and refurbishing of existing facilities at the facility.

On December 10, 1990, REMTECH submitted a preliminary request to amend Part A of the hazardous waste permit application to allow additional hazardous wastes that included numerous U- and P-listed wastes to be managed at the facility under interim status. No additional treatment processes, major physical modifications, or increases in storage capacities were requested. Approval to accept the additional waste codes was requested

because the requested waste types were either directly related to waste types already authorized for the facility or were necessary to more adequately address the needs of present and potential customers/generators, including PADEP, economically vital regional industries, and residences/municipalities with household hazardous wastes.

On January 30, 1991, REMTECH submitted to PADEP a revised Form C for the Hazardous Waste Transporter Permit (issued December 16, 1988) due to a change in management (previously submitted in October 1990).

On February 14, 1991 REMTECH submitted to PADEP a notification of intent to relocate residual waste activities to a different warehouse building on the property. Activities that would be conducted included storing liquid, sludge, and solid non-bulk residual wastes, and transferring and/or consolidating and/or repackaging the wastes manually or via pumps or vacuum trucks in proximity to the warehouse location. REMTECH intended to modify the existing structure to include a covered and paved area for bulking the wastes into rolloffs and dump trailers and processing (solidification) of residual wastes sludges to remove/reduce free liquids. PADEP approved of the relocation on April 11, 1991.

By letter dated February 27, 1991, counsel for Fairview Township requested the results for well sampling/analyses conducted by REMTECH during the fourth quarter of 1990, prior to PADEP granting the facility a license to transport chemotherapeutic and infectious wastes.

REMTECH submitted a revised Part A hazardous waste permit application to the USEPA on February 28, 1991. The facility requested approval to accept newly-promulgated wood preserving industry wastes (F032, F034, and F035) and petroleum refinery wastes (F037 and F038). The facility name was identified as REMTECH Environmental Lewisberry, Inc.; the legal owner was listed as REMTECH Environmental Group, LLC. Process codes and design capacities were listed as S01 (container storage of 55,550 gallons in two units), S02 (tank storage of 90,000 gallons in 10 units), and T04 (other treatment of 15 short tons per day in three units). Various D-, F-, and K-listed wastes were identified. The Part B hazardous waste permit application was dated March 31, 1991.

On March 29, 1991, REMTECH submitted to PADEP their Residual Waste Facility Application. Residual waste was previously stored and transferred in exterior areas; the application included the provisions for enclosing all storage and processing operations. A stormwater management plan was submitted on November 8, 1990. A residual waste facility plan was submitted on March 31, 1991. PADEP completed an administrative completeness review on REMTECH's residual waste/transfer facility permit application on April 30, 1991. The application was not considered administratively complete, and PADEP requested the facility address various comments within 90 days of the letter. The residual wastes to be handled included industrial residues, discarded or outdated commercial products and contaminated soils. The application requested to handle limited quantity of special handling waste (sewage sludge in rolloff containers).

On July 18, 1991, PADEP responded to REMTECH's request for guidance concerning characteristic waste codes relating to manifesting of wastes and interim status.

PADEP accepted an application for a residual waste processing/transfer facility from

REMTECH on August 5, 1991. It was assigned application number 301232. The Form No. 1 stated that commercial nonhazardous sludges, products, and contaminated soils would be accepted and bulked into containers or trucks for shipment to processing or disposal facilities. The activities would occur in a building. PADEP deemed the application administratively complete on August 5, 1991; notices were sent by PADEP to the county/local authorities on August 8, 1991.

On December 19, 1991, PADEP sent REMTECH numerous comments concerning the Part B of the hazardous waste permit application. Response was required within 60 days of the letter.

The USEPA sent REMTECH a request for information relative to SWMUs and any investigations that may have been conducted at the facility pursuant to Section 3007 of RCRA on January 22, 1992. REMTECH responded via letter dated March 23, 1992. The letter included drawings of the former, current, and proposed waste storage areas at both the 550 and 560 Industrial Drive facilities (Appendix B: Figure 4, Figure 8, and Figure 12) and a narrative of the facility ownership and operational history. REMTECH identified seven SWMUs related to the former IWR operations and 10 existing SWMUs for their operations. Also included were numerous attachments detailing the results of environmental assessments and tank removals/closures (including soil and groundwater analytical results and a risk assessment completed for insurance purposes) conducted by IWR and REMTECH, discussion of spills and associated remedial actions taken (if any), and permitting and regulatory actions for the facility (these documents are summarized throughout this report, primarily in *Section B.7 - Investigations and Remedial Actions to Date*). REMTECH indicated that the following remedial actions were completed at the facility under their ownership, in accordance with the January 26, 1989 COA:

- Removal of remaining bermed tanks which had been used for the storage of vehicle fuels with corresponding testing/remediation;
- Sealing off of the trenches in the former IWR garage (Storage Area C) and removal of the grease trap with corresponding testing/remediation;
- Removal of the stormwater detention basin with corresponding testing/remediation and replacement with an HDPE-lined, chemically resistant stormwater retention pond;
- Removal of all previous outdoor macadam/asphalt and gravel areas with corresponding testing/remediation and replacement with sealed-joint diked concrete which channels precipitation to the pond;
- Construction of a 7,000-square-foot, explosion-proof indoor hazardous waste storage area which contains six 7,500-gallon tanks, two of which are blanketed with nitrogen for ignitables service; all are protected by overfill alarms and interlocks with the pumping system and nonbulk container storage for approximately 1,000 drums with segregated storage by potential incompatibilities;
- Upgrading of fire protection systems;

- Upgrading of site security including new fencing, main and emergency gates, lighting, and alarm system;
- Provisions within the new storage building for liquid transfer operations with secondary containment; and
- Regrading of surrounding property to reduce stormwater run-on and properly channel site drainage.

The following USEPA hazardous waste codes had been authorized for REMTECH according to the March 23, 1992 letter.

D001	D018	D028	D038	F005	F037	K049
D002	D019	D029	D039	F006	F038	K050
D004	D020	D030	D040	F007	K001	K051
D005	D021	D031	D041	F008	K002	K052
D006	D022	D032	D042	F009	K003	K060
D007	D023	D033	D043	F010	K004	K061
D008	D024	D034	F001	F012	K005	K062
D009	D025	D035	F002	F032	K006	K069
D010	D026	D036	F003	F034	K007	K087
D011	D027	D037	F004	F035	K048	K100

The addition of waste types reflected USEPA's adoption of new TCLP wastes, wood preserving industry wastes, and petroleum refining wastes.

Revision 1 of the Part B hazardous waste permit application was dated February 24, 1992.

On June 22, 1992 and August 27, 1992, REMTECH submitted responses to PADEP's Completeness and Technical Notes of Deficiency for the Part B hazardous waste permit application submitted March 31, 1991, and amended by letters dated July 3, 1991, February 28, 1992, and June 22, 1992. The response document included replacement pages for the permit application. The permit for hazardous waste storage, treatment, and disposal (PAD067098822) was issued to REMTECH Environmental Lewisberry on February 16, 1993 and was effective until February 15, 2003.

The storage and treatment methods identified in the Part A hazardous waste permit application were storage – S01 container, S02 tank; chemical treatment – T04 solidification, T21 chemical fixation, T23 chemical precipitation, T31 neutralization; physical treatment – T35 centrifuging, T36 clarification, T38 decanting, T39 encapsulation, T40 filtration, T41 flocculation, T44 sedimentation, T45 thickening, T47 repackaging/stabilization, T50 blending, and T66 electrolytic precipitation.

As directed by the Department in a March 25, 1993 post-permit issuance meeting and to comply with notification/transition requirements under the new PK-4 rules for existing permitted facilities (25 PA CODE 265.431(g)), REMTECH sent a supplement to the Notification of Hazardous Waste Activity to PADEP on April 15, 1993. The supplement was intended to claim interim status for all newly regulated onsite recycling/reclamation activities and request a permit modification to include those activities under the

hazardous waste TSD permit. Interim status was requested for acceptance, storage, transfer/consolidation and blending of waste oils for recycling/energy recovery excluded from Federal regulation but regulated by PADEP as waste type PA01; recycling of silver-bearing (D011) liquids to recover silver by electrolytic precipitation; and liquid and solid fuels blending as necessary, decanting as necessary, filtration as necessary, and repackaging into smaller or larger containers. The supplement also noted that the facility's NPDES permit and residual waste permit were pending and the facility operated under an air permit (67399016). PADEP requested additional detailed information from REMTECH on August 12, 1994.

On September 2, 1993, REMTECH requested a Part B hazardous waste permit minor modification to include the addition of one fire-rated storage unit for water reactive compounds. REMTECH was not asking for an increase in capacity, only a change of location. This unit was to be located on the main pad, but as far from the main storage building as possible. D003 wastes were stored in this unit; examples included sodium, potassium, U006 acetyl chloride, titanium tetrachloride, acid halides, metal hydrides, and carbides (calcium, silicon, boron).

On September 29 1993, REMTECH notified PADEP that they were withdrawing the application for residual waste activity and the Form T2 (Notice of Intent for Unpermitted Residual Waste Processing or Disposal Facilities) for the 560 Industrial Drive facility. Although REMTECH was continuing to occupy this property, no waste management or handling activity other than minimal generation would take place. No change in operation was cited for the 550 Industrial Drive facility. PADEP responded on December 17, 1993 stating that REMTECH needed to clarify their intentions for the facility's operations. Specifically, REMTECH submitted a Form T2 claiming exclusion from residual waste permitting under Section 287.2(i) (pertaining to management of residual wastes as hazardous wastes) of the regulations; however, an inspection revealed that residual wastes were not being managed as hazardous wastes. No residual waste containers remained in the 560 Industrial Drive building. However, residual waste containers (drums and rollofs) were being stored outdoors on the concrete storage pad at the 550 Industrial Drive facility, which was not specified for storage in the hazardous waste permit. The letter also noted that REMTECH sold the 560 Industrial Drive facility to another party and was leasing a portion of it for vehicle maintenance only. REMTECH responded on December 22, 1993 stating that they were withdrawing the current residual waste permit and resubmitting a new one accounting for changes at the facility. PADEP withdrew the residual waste permit application for the 560 Industrial Drive facility. The letter also acknowledged REMTECH's request to withdraw the building from the T2 Notification.

On June 28, 1994, REMTECH requested an extension for submittal of their Recycling Permit Application that was requested by PADEP due to amendments to Pennsylvania's hazardous waste regulation on January 16, 1993.

REMTECH submitted a pilot scale test plan to PADEP on March 16, 1994 for the stabilization of RCRA toxic characteristic waste to nonhazardous wastes that was previously approved in the Part B permit. The document described the proposed operation of the unit and provided a closure plan for the pilot test that would be implemented when the full scale unit was put online.

On July 25, 1994, REMTECH requested to add additional U and P waste not in the Part



B hazardous waste permit application. These additional wastes very commonly occurred as lab pack chemicals at research facilities, hospitals, universities, and high schools as diagnostic aids and chemical intermediates. On June 29, 1995, PADEP approved the permit modification. The following were added to the Part B application:

U010 Mitomycin C	U160 Methyl Ethyl Ketone Peroxide
U041 1-Chloro-2-3-Epoxy Propane	U189 Phosphorus Sulfide
U055 Cumene	U223 Toluene Diisocyanate
U070 Dichlorobenzene	U246 Cyanogen Bromide
U075 Dichlorodifluoromethane	P010 Arsenic Acid
U077 1,2 Dichloroethane	P017 Bromoacetone
U083 1,2 Dichloropropane	P033 Cyanogen Chloride
U092 Dimethylamine	P048 2,4-Dinitrophenol
U096 Dimethylbenzyl-hydroperoxide	P064 Methyl Isocyanate
U125 Furfural	P092 Phenylmercuric Acetate
U133 Hydrazine	P105 Sodium Azide
U153 Methyl Mercaptan	

On October 12, 1994, REMTECH notified PADEP that they were in the process of removing hazardous waste drums from the primary grates as per the agreement with PADEP. REMTECH was also preparing to install curbing to separate storage areas B1/B3 (now referred to as Permit Area M) from B2/B4 (now referred to as Permit Areas A and O14), which resulted in a significant reduction in storage space. Therefore, the facility was requesting permission to reduce the width of the aisle spacing in storage area B2 (acids). PADEP approved a minor modification to the permit for the reduction in aisle spacing for no more than four aisles on October 18, 1994. In addition, PADEP determined that residual-like municipal waste (as identified by the facility) may be categorized as special handling wastes (wastes from residential, commercial, and/or institutional sources), and the facility was not permitted to handle such wastes. PADEP recommended the facility modify the residual waste permit to specifically identify these wastes and enter into a COA for handling of these wastes until a final decision on the residual waste permit was made.

On November 30, 1994, REMTECH informed PADEP that they had purchased a heated 40-foot cargo box to defrost nonhazardous drums and a drum crusher to assist in the management of empty drums that were sent offsite to a local scrap yard. PADEP provided comments to the proposed usage of these units on February 2, 1995, and the facility responded via letter dated February 13, 1995, in which it was stated that REMTECH had purchased a pre-engineered building with a permanent floor drip pan to house the drum crusher.

On March 24, 1995, REMTECH requested clarification from PADEP for cutting window frames covered in lead-based paint (D008) at the facility. PADEP approved this task.

On June 29, 1995, PADEP approved REMTECH's April 6, 1995 request for in-transit storage of hazardous waste destined for other TSD facilities for up to five days in trucks at the outside concrete diked yard area.

PADEP drafted internal comments for a surface water review included in REMTECH's

residual waste permit application on July 17, 1995. The only surface water feature located in the immediate proximity of the proposed facility was a wetland determined not to be an exceptional value wetland. The wetland receives water from the stormwater management system. Based on the review, no adverse impacts to either the water quality or hydrology of the wetland were expected with the following provisions: REMTECH obtained and complied with a stormwater discharge permit and best management practices (BMPs) were followed.

On December 28, 1995, REMTECH provided responses to PADEP's technical review of the residual waste permit application. The response document included replacement pages for the PPC plan including a listing of the wastes handled at the facility, expanded responses for Forms P and R, updated bonding worksheets, and updated drawings. Eight public water supply wells that used wells as their water source were identified within a one mile radius of the facility. A list of private water supply wells within 0.5 miles of the facility was also included.

On January 17, 1996, REMTECH requested the temporary relocation of a hazardous waste storage area due to a six month pilot program of size reduction of lead-based paint debris to facilitate recycling or disposal offsite. With the successful completion of the pilot program and the approval of the residual waste permit, REMTECH was to build permanent storage areas for bulk wastes. On January 26, 1996, PADEP approved the request. On August 13, 1996, PADEP approved the extension to the January 26, 1996 request for the temporary relocation during the pilot program.

On June 21, 1996, REMTECH confirmed that PADEP approved an extension of the incoming in-transit storage period, although the facility was operationally out of storage space. The waste resulted from an emergency cleanup of gasoline at an offsite wastewater treatment plant. The material was RCRA hazardous for ignitability (D001) and benzene (D018) (approximately 10 to 20 percent gasoline mixed with water). Approximately 4,000 gallons of the waste was to be transferred to a tank trailer at the facility.

The facility submitted a request to change the name of the permit holder on October 31, 1996. The change was requested for the hazardous waste permit (PAD067098822) and the hazardous waste transporter license (AH-0146). A consolidation of ownership had taken place in the REMTECH group of companies. This included: complete transfer of rights and interests in all REMTECH companies from former owners Robert Herzog, Ronald Klempner and Brian Neufeld to the remaining owners, James Beers and Lawrence Brandt; dissolution and/or removal of REMTECH Environmental Group, Inc. (a former parent organization), Resource Management Technologies, Inc. (a former parent organization of the Camden, New Jersey waste facility), and REMTECH Environmental Lewisberry, Inc. from the REMTECH group of companies; and creation of the Lewisberry Environmental Services, Inc. as a holding company for some of the transferred ownership interest. Assets, property, and permits were placed with a single company, REMTECH Environmental (Lewisberry), L.P. that was a subsidiary of REMTECH Environmental Lewisberry, Inc., which previously only held assets. The facility submitted a revised form HW-C that provided detailed information regarding the ownership of the company and associated parent organizations, owners of the facility property (REMTECH Environmental [Lewisberry], L.P.) and adjoining properties, and permitting and compliance history. A minor permit modification was needed for the name change to REMTECH Environmental (Lewisberry), L.P.

On April 17, 1997 a Residual Waste Permit (ID# 301280) was issued to REMTECH for the residual waste processing facility.

On May 19, 1997, the facility provided comments and suggestions on the final residual waste permit (301280), specifically related to Form U and Form 26R requirements. As the 30-day comment period was ending, REMTECH planned to file an appeal with the Environmental Hearing Board (EHB) as a formality. The Notice of Appeal was submitted to the EHB on May 21, 1997. On November 11, 1997, REMTECH notified the EHB that all outstanding issues had been resolved and withdrew the Notice of Appeal.

On July 24, 1997, REMTECH requested approval from PADEP for in-transit storage of inbound wastes up to 10 days. PADEP granted approval on September 11, 1997 for storage of hazardous waste in which REMTECH was listed as the transporter in trucks parked in the outdoor concrete lined yard area for up to 10 days.

REMTECH submitted their proposed internal manifest discrepancy policy to PADEP for comment/approval on June 26, 1997, to which PADEP concurred with comments on August 5, 1997. A follow-up letter stating REMTECH's proposed approach to addressing manifesting of nonhazardous/residual waste later identified as hazardous waste was submitted to PADEP on August 11, 1997; PADEP concurred with comments on August 21, 1997.

On October 1, 1997, REMTECH provided comments to the draft residual waste permit amendment. The permit was amended and issued on October 31, 1997.

On April 8, 1998, REMTECH submitted a revised closure plan to PADEP and requested to modify the current installment schedule.

PADEP stated by letter dated April 10, 1998, in response to a March 26, 1998 REMTECH letter, that the facility must construct and begin operating the proposed permitted storage areas by October 31, 1998 to remain in compliance with the newly issued permit (301280) or submit a permit modification requesting the existing areas being utilized for storage/processing be included in the permit. REMTECH's residual waste permit application indicated that residual waste storage and processing would occur in a newly constructed storage building (Residual Waste Storage Area G) and additional storage would occur within an enclosed structure in the existing storage yard (Residual Waste Storage Area H) which had not been constructed. Therefore, the storage/processing being conducted at the facility at that time were not in conformance with the permit.

REMTECH's Part A hazardous waste permit application dated August 1, 1998 identified five permits: PAD067098822 (hazardous waste treatment and storage), AH-0146 (hazardous waste transportation), 301280 (residual waste processing facility), 0084107 (NPDES) and 67-399-016 (air). The process codes, capacity and number of units were identified: S01, 285,890-gallons, 15 units; S02, 120,953-gallons, 21 units; T01C, 250 short tons per day, 1 unit; T01D, 10,000-gallons per day, 13 units; T01F, 10,000-gallons per day, 14 units; and T01H, 10,000-gallons per day, 9 units.

The treatment, processes and recycling proposed included: blending of compatibles

liquids or solids into a single container; solid fuels blending of compatible BTU-valuable solids (blending as necessary, shredding as necessary, repackaging into smaller or larger containers); liquid fuels blending of compatible BTU-valuable liquids (blending as necessary, decanting as necessary, filtration as necessary, repackaging into smaller or larger containers); T01C, stabilization to remove characteristics; T01D, neutralization of corrosives to remove characteristic (blending as necessary, filtration as necessary, neutralization); electrolytic precipitation recycling to remove or reduce characteristics and/or reduce characteristics and/or to recover metals (blending as necessary, filtration as necessary, electrolytic precipitation); T01F, chemical precipitation to remove or reduce characteristics and/or to recover metals (blending as necessary, filtration as necessary, chemical precipitation); de-packing and repackaging of wastes in containers (primarily intended for "lab packs") (repackaging); and T01H, filtration of lead-bearing liquids to remove characteristic (filtration). Many (417) USEPA hazardous waste codes were listed with the estimated annual quantity of waste and associated process codes.

On August 20, 1998, REMTECH responded to PADEP's concerns raised during a residual waste inspection regarding cutting of waste fabric destined for transport to the York Incinerator.

The January 20, 1999 permit modification changed the facility name from Remtech Environmental Lewisberry, Inc., to Remtech Environmental (Lewisberry), L.P. by permit modification.

On May 4 and 11, 1999, REMTECH informed PADEP and the USEPA that the facility was under agreement of sale to CCI (Elizabeth, NJ) and requested the residual waste (301280) and hazardous waste permits (PAD067098822) and the TSCA PCB Commercial Storer Approval (dated August 1, 1997) be transferred to CCI on the date of sale.

### 3) CCI

On January 3, 1999, the facility submitted information for the residual waste permit modification. CCI's modification would ensure that all solid, liquid and semi-solid residual wastes would be processed within a new building to be constructed for this purpose. Residual wastes were transferred in drum containers and rolloff containers as well as dump trailers, cubic boxes, portable tanks, and other bulk, non-bulk and intermediate bulk containers. The maximum inventory of 1,007 cubic yards (CY) includes containers in storage, waste in processing areas, as well as waste stored in bulk containers. The main solidification process would be done on a batch basis. Up to 5,000-gallons of material may be processed several times per day. Bulking operations were continuous throughout the day. Trailers would be loaded from the bunkers as needed. Drum containers would be measured and recorded by size and quantity and rolloff containers would be measured by size. Bulk loads would also be measured by portable scales or scale receipts. Wastes would be transferred to permitted nonhazardous landfill facilities, incinerator facilities, and/or CCI's nonhazardous and hazardous facility in New Jersey.

On August 17, 1999, the permit was transferred from REMTECH to CCI. Bulk tank trucks were loaded/unloaded on the west side of facility. CCI utilized paper pulp to solidify liquid bearing wastes rather than the non-RCRA kiln dust as prescribed in their Waste Analysis Plan (WAP). A minor permit modification was required. Hazardous

waste was transported offsite by Clean Venture, Elizabeth NJ (CCI's sister company) under transporter license (AH-0299).

Residual Waste Permit #301280 was issued on August 17, 1999. Residual wastes were accumulated and stored in bulk containers (i.e. bunkers, tanks) and in non-bulk containers (i.e. drums, cubic yard boxes, pallets, etc.). Closed containers containing solids were stored outdoors in areas, but within the existing secondary containment system. Waste oils and residual wastewaters were stored in two double-walled ASTs, which were surrounded by bollards and placed on concrete footings. A WAP and PPC plan for the combined hazardous waste facility and residual waste facility were submitted to PADEP. Plan updates continued throughout operation.

On December 3, 1999, PADEP notified the facility that they had completed the review of the 10 Day In-Transit PPC Plan.

Throughout operation, the facility has had many minor permit modifications to the hazardous and/or residual waste permits, such as, redesigning/repositioning of the buildings, modification of the hazardous waste sampling area, the addition of USEPA waste codes, changing of aisle spacing and stacking requirements, installation of permitted hazardous waste solvent tanks with internal mixers, permitting of the residual waste building for the storage of hazardous wastes, permitting of the solidification bunkers (other processing unit) for the stabilization, delisting of specific hazardous wastes, construction of a new building for the grinding and suspension of flammable solids in fuels, radiation monitoring, mixing bunker leak detection zone monitoring, mixing bunker floor replacement, addition of covered Area D to the southern end of the hazardous waste building, removal of PCB laboratory accreditation, updates to the waste analysis plan, changes to the operating hours, and modification of the plans to reflect the changes.

On December 13, 1999, CCI notified PADEP that they were implementing the consolidation of cans, bottles, rags, filters, unpressurized canisters, vials and debris through the use of compaction.

On April 17, 2000, PADEP provided a technical review of the residual waste permit application. Many items were addressed; however, an issue with hazardous waste containers was presented. The facility was sampling hazardous waste containers outside, and not within the hazardous waste permit area. PADEP recognized that there was not enough room in the permitted receiving area to conduct sampling while maintaining appropriate aisle space. PADEP previously provided REMTECH with verbal approval of this with the expectation that they would make modifications to the permit or construct proposed building changes. Since this hadn't occurred and sampling was still being conducted outside, this issue was addressed in a plan, including a schedule of implementation. Also, PADEP initially permitted the facility as a residual waste processing facility. However, it was actually being operated as both a processing facility and a transfer station. On June 27, 2000, the facility requested a meeting to discuss the application issues.

On September 12, 2000, CCI requested temporary storage of hazardous waste for wastes manifested for receipt at the CCI facility. PADEP did not allow 10-day storage of hazardous waste in the Clean Venture 10-day in-transit area when CCI is the designated facility. The facility requested inbound shipments of hazardous waste to be granted a

“next operating day” allowance in the transport vehicle until the next day for the facility, if the vehicle arrives at the facility late in the day or after operating hours. On December 20, 2000, PADEP conditionally approved the in-transit PPC plan. The in-transit area is noted on Appendix B Figure 6.

On August 30, 2001, PADEP approved the major permit modification for the construction and operation of a new residual waste processing building.

On August 15, 2002, CCI submitted a Part B renewal application for the storage and treatment of hazardous wastes. This application was for the reauthorization of an existing permit to operate a commercial hazardous waste storage and treatment facility. Some changes included additional accepted waste codes, new building construction, construction of three bunkers, weekly inspections of the facility, and additional 7,500-gallon tanks to increase efficiencies of the bulking operations.

On February 14, 2003, the Part A and B hazardous waste permit applications were submitted to PADEP. The existing hazardous waste permit issued on February 16, 1993 remained in effect until PADEP issued the new permit.

On March 26, 2003, a minor residual waste permit modification for CCI’s Solid Waste Permit No. 301280 was issued for redesign/repositioning of the residual waste processing building.

In 2004, CCI changed from using kiln dust to using saw dust to bulk liquid residual wastes. Paper was used to bulk the other residual wastes on site.

On January 5, 2004, an internal PADEP letter of the review the Part B hazardous waste permit renewal application noted that the staging/storage of hazardous waste drums outside of permitted areas has been an on-going issue at the facility. PADEP recognized that staging of drums was necessary in loading/unloading operations, but staging of drums needed to be conducted within a permitted area, and in an enclosed/covered structure, as provided for in the original hazardous waste permit. PADEP requested the plans for sampling and staging drums, including the maximum number of drums to be staged and locations for this, as well as a schedule for construction of an enclosed/covered area for these activities, such as the previously permitted Area D. On January 29, 2004, PADEP provided CCI its technical review of the permit application.

On May 27, 2004, the facility submitted their responses and included updated and previously missing documentation. The facility proposed to handle all staging and sampling of wastes in Area D. The structure proposed was that of a canopy. The number of drums to be staged in this area was 496. A schedule for construction was to be provided once final approval was granted.

On June 4, 2004, the facility notified PADEP of its plan to expand capacity of the storage area for water reactive material.

On June 10, 2004, a major residual waste permit modification for CCI’s Solid Waste Permit No. 301280 was issued for the implementation of the Action Plan for Radiation Monitoring dated January 2002 and revisions dated October 2002.

On December 23, 2005, CCI responded to the PADEP Tech 2 review of the Part B

hazardous waste permit renewal application. Through 2006 and into 2007 the permit renewal process continued. On January 3, 2007, a revised Part A application (dated December 1, 2006) was submitted to accurately reflect the waste codes stored in the tanks.

In November 2006, CCI updated their PPC plan (originally included in the Part B hazardous waste permit application in March 29, 2005).

On April 12, 2007, the CCI Residual Waste Permit ID# 301280 was renewed for the residual waste processing operation.

On May 8, 2008, PADEP issued a draft permit for the storage and treatment of hazardous waste. CCI was operating under a permit issued in 1993. In addition to continuing activities approved under that permit, this permit allows CCI to conduct hazardous waste neutralization and solidification operations in three bunkers located in the existing residual waste building. This permit also established a timeframe for enclosing Area D, the current staging area, under roof. On June 18 and 19, 2008, CCI provided comments on the draft permit.

On September 26, 2008, CCI was issued the hazardous waste permit for the application submitted on August 15, 2002; the permit expires on September 25, 2018. The permitted hazardous waste codes are identified (Attachment F). Hazardous waste containers are stored in 13 container storage areas and 8 tank areas. Each tank area contains one or two tanks or 3 bunkers (aka the 3 mixing pits).

PADEP and CCI entered into a COA on October 25, 2010 as a result of:

- An explosion and subsequent fire in Pit #3 located in the nonhazardous waste building on June 17, 2009 due to: a reaction of mixing non-compatible waste types; failure to notify the department immediately during the emergency or within 5 days in accordance with the PPC Plan; and failure to conduct a bucket compatibility test prior to mixing materials;
- Mixing of fluorescent light bulbs (residual waste) and waste paint (hazardous waste) on August 2, 2009 in the residual waste pits for the purpose of disposing of all waste in a residual waste landfill rather than disposing the hazardous waste at a permitted facility;
- Inability to locate a container of hazardous waste by use of written record on August 26, 2009;
- Improper labeling, inability to locate containers on September 23, 2009; and
- The documentation of a leak in the Residual Waste mixing pit detection zone on September 23, 2009. The liquid level was measured to be approximately 12 inches in each of the three monitoring ports despite the weekly inspection checklists maintained by CCI indicating that at the last monitoring the liquid level was only one inch. Initial review of weekly inspection checklists noted that the level of liquid in the secondary containment for the residual waste disposal pits had been one inch since the beginning of the calendar year. CCI

later submitted data per the Department's request documenting that liquid was observed in the secondary containment structure each week since June 29, 2007.

On November 22, 2010, a residual waste unilateral permit modification for CCI's Solid Waste Permit No. 301280 was issued for adding eight new Residual Waste Codes: 215, 802, 803, 804, 807, 808, 809, and 810 for Flue Gas Desulphurization (FGD) sludge and Oil/Gas drilling waste materials.

On December 9, 2010, the facility discussed the baseline conditions for the residual waste building leak detection system for the pits after their reconstruction.

On January 25, 2011 a residual waste minor permit modification for CCI's Solid Waste Permit No. 301280 was issued for the replacement of the Residual Waste Mixing Bunker floors located in the Residual Waste processing building.

On February 17, 2011, PADEP approved the hazardous waste permit modification for the new location pertaining to the proposed outdoor, covered container storage area (Area D). The proposed location was changed from the East side of the hazardous waste building to the South side. This area was previously approved in CCI's September 26, 2008 RCRA Part B Hazardous Waste Permit, Part III., Section D.10 (i.e. Outdoor, covered container storage area used as staging area for wastes received, wastes being prepared for outbound shipment. Wastes may be stacked no more than 125-inches high with 30-inch aisle spacing while being staged. Wastes actively being sampled/identified shall be arranged with adequate spacing to allow for inspection of all drums.).

A unilateral permit modification was issued on April 26, 2011 which included permit conditions pertaining to the reporting of the liquid levels 30, 60 and 90 days after reopening of the residual waste mixing pits and steps to take if liquids were detected in the leak detection zone. The agreement modified CCI's reporting procedures for liquid entering the witness zone beneath the Residual Waste mixing pits via required reports that characterized the trends and composition of liquids in the witness zone and proposed specific criteria that would define a significant water level rise.

The pits were reconstructed and placed back into operation in August 2011.

On August 16, 2011, CCI requested the use of Enviroblend™ stabilization agent to chemically bind to the hazardous components of their treatment/stabilization waste streams more effectively than cement kiln dust by preventing any leaching of hazardous chemicals when tested.

On October 5, 2011, October 13, 2011 and November 14, 2011, the facility submitted the initial liner leak detection system monitoring data for the 30 to 90-day operating period of the waste bunkers (pits). These letters were submitted in accordance with the October 25, 2010 COA and the April 26, 2011 unilateral permit modification to document the results of monitoring of the leak detection zone, for establishment of a baseline liquid level and developing criteria which would be used to define a significant water level rise that would trigger a shutdown of one or more of the pits. The leak detection zone samples were collected on September 15, 2011, September 29, 2011 and October 26, 2011 and analyzed for TCLP volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), herbicides, pesticides, metals and indicator parameters (pH, total



organic solids [TOS], dissolved oxygen [DO] and conductivity). The analytical results showed that there were detections of several constituents. Although, all constituent concentrations were below the regulatory levels for hazardous waste determination (40 CFR 61.24, Table 1), arsenic and p-cresol were both detected above the PADEP Act 2 Statewide Health Standard (SHS) Medium-Specific Concentrations for groundwater (MSC<sub>GW</sub>), which are based on Federal/State public drinking water Maximum Contaminant Levels (MCLs), Health Advisory Limits, and Risk-based concentrations. As a result of the data collected over several quarters, there was no significant leakage incidents of concern which warranted shutdown of the mixing bunkers based on the 90 days of monitoring.

On March 12, 2012, the facility responded to PADEP's January 11, 2012 letter pertaining to CCI's 90-Day Liner System Monitoring Evaluation dated November 14, 2011. It was agreed that a 9-inch baseline "normal" would be the level at which the accumulated liquid in the observation pit wells would be pumped down; three observation pit wells would be sampled/analyzed individually during the 2<sup>nd</sup> quarter; only one sample would be collected in the future if the sample results were similar for the three wells; a 2-inch increase in water level in 14 days would trigger a shutdown of the three mixing pits; the onsite monitoring wells would be monitored every 3 quarters unless the Act 108 participants accepted the results from the CCI onsite wells as an "early warning" option, at which point the CCI wells would be analyzed quarterly; data evaluation would be included with the monitoring results; any new constituents detected in the pit observation well samples would be added to the monitoring well analytical list; and, some nearby aboveground water pipes located near the observation wells, as well as the underground water main line would be monitored for leakage. PADEP's January 11, 2012 letter also requested that a new Act 108 private well survey be conducted because there appeared to be numerous private wells in the area. Additionally, due to the leak detection zone liquids being analyzed via hazardous waste determination in the past, many of the detection levels were too high to compare to the pertinent PADEP Act 2 SHS MSC<sub>GW</sub>. As a result, PADEP's January 11, 2012 letter also requested that lower detection limits be used for future leak detection zone analyses so that the analytical data could be more appropriately compared to the groundwater data from the CCI groundwater monitoring wells and Act 108 wells.

An RTEI letter dated August 31, 2012 requested that only one leachate sample be collected during future sampling events. Analytical results did indicate leachate; therefore PADEP requested that the September 2012 sampling event include sampling of all three residual waste leak detection wells for the more extensive parameter listing (not just the Form 50 parameters) in order to satisfy Item B.3. of PADEP's January 11, 2012 letter. As a result of the liquids indicating leachate contamination in the detection zone, the liquid would need to be analyzed initially within 30 days and thereafter annually at a minimum for the same list of constituents as documented in the October 25, 2010 COA for the onsite groundwater monitoring wells and at similar detection limits (not TCLP analyses) so the leachate data could be appropriately compared to the groundwater data.

Initially CCI sampled the onsite groundwater monitoring wells every third quarter; however as a result of Trichloroethene (TCE) being detected at Well MW-2 in September 2012, PADEP requested that the groundwater monitoring wells be resampled during the subsequent 4<sup>th</sup> Quarter 2012. TCE was again detected so PADEP split samples during the 1<sup>st</sup> Quarter 2013 sampling event and the results were similar. CCI believed the TCE was the result of an offsite spill that occurred on February 1, 2012 by a Maryland-based

company vehicle, AEG Environmental Products & Services (AEG). PADEP's letter dated May 9, 2013 requested that CCI conduct a groundwater assessment in accordance with the Commonwealth's Residual Waste Regulations, Pennsylvania Code, Title 25 §288.256 which requires determination of the existence, quality, quantity, areal extent, and depth of groundwater degradation, in addition to the rate/direction of migration of contaminants in the groundwater. Information pertaining to the groundwater assessment is included in *Section B.7 - Investigations and Remedial Actions to Date*.

PADEP's March 29, 2013 letter granted approval for the residual waste mixing pit detection zone leachate to be sampled annually during the 4<sup>th</sup> quarter or more frequently if the liquid/leachate level reaches the baseline "normal" of nine (9) inches which was agreed upon during the February 3, 2012 teleconference between PADEP/RT Environmental/CCI. PADEP agreed to allow sampling of the leachate detection zone only from the Center Leak Detection Well location during future sampling events because all three pits shared the same detection zone and previous analytical results were similar. Recommendations pertaining to the Act 108 private wells, Act 108 "early warning" locations, onsite quarterly groundwater data evaluations, quarterly leachate liquid level submittals and the leachate data evaluations were also mentioned. The letter also provided comments to the draft March 2013 Groundwater Monitoring Plan. Quarterly onsite and offsite Act 108 groundwater sampling and yearly, or more often if required, leachate detection zone sampling continues to date.

On February 5, 2014 a permit modification for CCI's Solid Waste Permit No. 301280 was issued for the addition of a new portal radiation monitor, removal of PCB laboratory accreditation, an update to the waste analysis plan, and a change to the operating hours. In accordance with the permit modification, acceptance, management, processing, treatment, and ultimately offsite disposal of Residual Wastes (including D002, D003, and D004 – D0011 hazardous wastes treated to be nonhazardous for land disposal) shall follow procedures and policies detailed in the revised Residual Waste Analysis Plan (WAP) dated January 6, 2014. This WAP is a supplement to the original revised WAP dated December 9, 2013.

CCI is currently working with USEPA's TSCA program and PADEP Southcentral Regional Office's Waste Management Program to amend their RCRA permit to add storage of TSCA PCB wastes at their 550 Industrial Drive property. PADEP will be finalizing the RCRA permit modification in the near future. A site map documenting the proposed PCB storage area is included in Appendix B: Figure 33.

- b. Hazardous and Residual Waste Notice of Violations (NOVs) and Inspections** – Numerous hazardous and residual waste inspections have been conducted at the facility by the PADEP. The USEPA has also conducted several hazardous waste inspections at the facility. Those inspections identifying environmental hazards (e.g., leaking containers, observed spills/releases, etc.), recommendations and/or important information are summarized below. Inspections with no violations or with violations pertaining to administrative issues (e.g., manifest discrepancies, labeling, aisle spacing, record-keeping, reporting, etc.) are listed on Attachment B.

***1) IWR***

PADEP issued an NOV to IWR on September 23, 1983 for failure to manifest and properly label hazardous waste decontamination sludge from the trenches inside of the

garage. This NOV required the facility to begin inspecting and maintaining the trenches as hazardous waste tanks. IWR responded on October 12, 1983.

PADEP noted several violations during the December 8, 1983 inspection. Violations were primarily related to manifesting issues; however, the inspector noted numerous small spills of various materials including hazardous waste oils and apparent sewage sludge were present around the facility. In addition, the inspector noted other areas of concern (testing materials placed in tanks, compatibility of mixtures of these materials, and the utilization of the stormwater retention pond for tank containment) that should be addressed with the review of the Part B hazardous waste permit application. On December 28, 1983, IWR responded to PADEP's inspection comments stating that the spills noted around the fence line at the rear of the facility had been cleaned up and the areas of concern identified by the inspector were a matter of understanding IWR's operations that would be discussed at a scheduled review.

PADEP noted several violations during the June 27, 1984 hazardous waste inspection that included a small leaking drum containing motor preserver near the garage and a ram for a rolloff that contained residue of white powdery and black oily materials. The ram was sitting near the scrap area on the northwest side of the site. The inspector recommended the spilled material near the leaking drum be excavated and disposed of properly and proper decontamination procedures for equipment be followed. Attached to the inspection report was the June 27, 1984 NOV issued to IWR by PADEP for serious deficiencies in IWR's response to PADEP's January 19, 1984 technical review comments for the Part B hazardous waste application. IWR provided a response to the June 27, 1984 NOV on August 13, 1984.

The November 21, 1984 PADEP inspection noted that the rolloff container storage area did not meet regulations in that it was both paved and unpaved. Plans were prepared to create a concrete pad with a berm. In addition, it was noted that the catch basin below the mound-buried tanks was anticipated to be utilized as a sump or collection area. It was agreed that a base would be installed. The mound-buried tanks were lying on a gravel bed with an "in-situ clay base". A PVC pipe was in place to collect leakage and transmit it to the catch basin. Since the basin could conceivably receive contaminants each time rainwater flowed over the proposed storage area base, the inspector recommended a soil sampling plan for the basin be considered. It was also noted that diking was needed and planned. Wastes were typically transported from the point of generation to the point of disposal. However, some wastes were stored on site in two mound-buried tanks (one received waste flammables, the other received ignitables). The accumulated waste was solidified with lime or corn cobs and stored in rolloff containers. Tankers were cleaned in the maintenance area inside of the building. The majority of the wash water was placed in a rinse tank. A blind trench received solids, and drippings. The wastewater in the rinse tank was transferred to the mound-buried tanks and trench solids containerized for disposal as hazardous waste (analysis of the waste failed to reveal any characteristic or listed hazardous wastes). Liquid truck heels, the portion of the waste that remained in the tankers after emptying, were transferred to the mound-buried tanks. Solvents were not placed into the mound-buried tanks. Solvent transfer occasionally resulted in a truck heel which was drummed and returned to the source. The USEPA noted that violations observed during this inspection were similar to those observed during the June 1984 inspection (e.g. record-keeping, inspection of wastes, labeling). The USEPA planned to inspect the IWR facility late in the year.

PADEP noted during the April 4, 1985 inspection that truck hoses were stored on the bare earth. Drippings from the hoses resulted in some small spots (less than one square foot in area) of stained soil. The stained areas were removed and placed in a rolloff with other wastes of similar type.

On May 29, 1985, the USEPA conducted a RCRA Compliance Evaluation Inspection accompanied by PADEP. IWR was in compliance with regulatory requirements. The USEPA noted that it was possible to detect leaks from the USTs by visual observation. The detection was enhanced because the soil was graded to a swale which directed runoff into the stormwater retention pond. Before the water from the pond was allowed to flow into a ditch and pond beyond the immediate vicinity of the facility, it passed through a sorbent boom surrounding the stand pipe. IWR sampled the water in the pond if a sheen was observed. The pond was dry at the time of the inspection. It was also noted that a few rusty but empty drums were stored in the field behind the building. One 250-gallon container holding approximately 30 gallons of PCB kerosene rinse waste was also identified.

PADEP was on site on November 20 and 26, 1986 to monitor the removal of the five waste mound-buried tanks. PADEP observed IWR's consultant collecting a composite soil sample of the area containing Tanks #1, #2, and #8. PADEP collected rinsewater samples from the five USTs. No evidence of leakage was observed. The January 29, 1987 PADEP inspection report noted that the area of the tanks was backfilled after sampling revealed no contamination in soil surrounding the tanks or in the tanks themselves. A letter with any final comments from the PADEP was forthcoming.

On June 4, 1987, PADEP responded to a call from the Newberry Township Fire Company that a drum of ferrous sulfate had superheated and was fuming. The situation was abated by York County Emergency Management Association prior to PADEP's arrival on site.

The October 20, 1988 PADEP inspection report noted the gravel-based storage area on the outside northeast section of the facility did not meet standards for being impervious and having adequate collection and storage capacity/capability. An NOV was issued on November 3, 1988, the facility provided a response on November 18, 1988, and a COA was subsequently issued by PADEP on January 26, 1989.

The March 1, 1989 PADEP inspection noted that the facility was undergoing transition due to new ownership (REMTECH). The Keller property was also acquired and would be used for warehouse and administrative facilities. No hazardous waste was observed at the facility; only a moderate amount of residual waste was stored.

## 2) **REMTECH**

During an inspection on November 17, 1992, PADEP noted violations for REMTECH as follows: aisle spacing, inaccurate labeling, and incomplete inspection records. PADEP also noted an area of stained grass near the curb on the west side of the facility. PADEP recommended thoroughly cleaning the drain to lessen chance of future overflows. The facility responded on November 23, 1992. An NOV was issued on January 4, 1993; Facility responded on January 29, 1993 and a Consent Assessment of Civil Penalty (CACP) was finalized on April 27, 1993.

On February 2, 1993, PADEP responded to a complaint of improper disposal of waste materials at the facility. The complaint cited that solids from the solidification of liquids were lying on the ground. When it rained, they flowed into the containment basin which was allowed to drain into the RPS property next door. In addition, dust from the solid hazardous material was blowing around on windy days. PADEP found no basis for the complaint.

PADEP observed a manhole cover outside the building during the February 2, 1993 compliance inspection. REMTECH stated that it was a well that was no longer in use. PADEP recommended that REMTECH seal around the well to prevent leakage into the well.

During the May 27, 1993 inspection, drums containing petroleum-type waste were leaking onto the concrete in three different sections of the outside residual waste storage area. REMTECH stated that the areas would be cleaned up by the end of the day. In addition, the manhole for the well was sealed as recommended during the February 2, 1993 inspection. (Note: Violations were noted for missing/torn labels. PADEP subsequently issued an NOV for these labeling violations on July 15, 1993).

During the December 1, 1993 inspection, PADEP noted that the storm drain on the south end of the facility overflowed. A stain was observed on the grass, and soil and debris were present on and around the drain. PADEP recommended cleaning up the stained grass and the storm drain area. REMTECH stated this would be completed by the end of the day. No violations were noted on the inspection report.

PADEP conducted a multi-day inspection on May 5, 17, and 19, 1994. In addition to violations related to aisle spacing, container stacking height, labeling, storage of incompatible wastes together, and storage of residual and hazardous wastes for greater than one year, PADEP observed several open and/or leaking residual waste drums in the outside residual waste storage area. PADEP issued a field compliance order for these violations on May 19, 1994 and an NOV on June 22, 1994. A COA was issued for the violations observed during the February 10 and May, 1994 inspections on March 1, 1995. The June 30, 1994 inspection indicated that REMTECH was in compliance with the field order and the NOV. (Note: It was documented in this inspection report that REMTECH attempted to deny PADEP access to inspect the facility without the presence of certain facility representatives.)

In addition to the violations (inaccurate labeling, accepting municipal waste [not permitted], incomplete inspection logs, aisle spacing, storing incompatible materials together) observed during the August 24, 1994 inspection, PADEP also observed a leaking rolloff in the west corner of the residual waste storage area near the storm drain. Employees placed more oil-dri material on the spilled material during the inspection. Liquid was also observed in the reactive storage shed containment area located in the residual waste storage area. Violations observed during this inspection were included in the March 1, 1995 COA.

During the December 19, 1994 inspection, PADEP noted that REMTECH installed a drum crusher in the outside residual waste storage area. No residual overflow from the liquid containment catch-pan was noted. The liquid in the reactive shed containment area was no longer present. The inside hazardous waste storage area floor was epoxy coated and equipped with new aisle lines and curbing. A new sprinkler system was installed and

operational. In the outside residual waste storage area, a shovel full of fly ash possibly mixed with residual waste was observed in a pile on the grassy area between the concrete and the impoundment; it was cleaned up by REMTECH during the inspection. REMTECH later noted via letter dated January 3, 1995 that this material consisted of only fly ash. The inspector also noted silt fencing was installed in the area of the swale associated with the stormwater retention pond where sludge was previously observed and in areas where a coating of sludge remained. However, the area had been largely undisturbed. REMTECH also informed PADEP that there were cuts in the pond liner that occurred while draining the pond during an NPDES inspection.

It was noted during the May 25, 1995 PADEP inspection that excavated soil from stormwater retention pond remediation was still being stored on and covered with plastic. The culvert pipe had also been flushed. A minor leak from a waste drum was observed in the outdoor residual waste storage area. REMTECH overpacked the drum. Rainwater was observed in one of the containment trenches inside of the indoor hazardous waste storage area, which was removed during the inspection.

During the August 9, 1995 inspection, PADEP noted that the curbing around the surface water drain in the northwest corner of the facility had several unsealed cracks. REMTECH stated these cracks would be sealed. The hot box was being used to store residual waste in fiber drums. A trailer containing waste parked in the outdoor residual waste storage area was leaking a liquid, which was cleaned up during the inspection. One violation was observed; one container of hazardous waste was stored in excess of one year. An NOV was issued on September 11, 1995 and a CACP was issued on January 29, 1996 for this violation.

During the January 4, 1996 inspection, PADEP noted that drums in the outside residual waste storage area were surrounded by and covered with snow. PADEP noted several areas where spill dry was placed onto the asphalt lot to clean up a spill. The spill dry had frozen in place. PADEP recommended it be cleaned up before thawing. A significant leak of what appeared to be oil from a residual waste drum was also noted near the drum crusher. REMTECH agreed to clean up the spill immediately.

During the March 27 1996 inspection, PADEP noted that a residual waste rolloff container located in the outside residual waste drum storage area was leaking fluids onto the ground. The liquids were contained by absorbents. REMTECH stated the leak would be stabilized by the end of the day. Several areas just beyond the outside concrete curbed area had what appeared to be residual waste material, fly ash, and some dark stained soil and vegetation. REMTECH stated these were areas where the snow was piled. PADEP recommended the areas be cleaned up and any waste materials be removed from the surface of the soil or from the soil if the material was combined into the soil. REMTECH agreed to do this. Accumulated liquid was observed on the concrete behind the drum crusher inside the drum crusher building. Red liquid (reported to be waste generated by REMTECH from the drum crushing operation) was observed in inaccurately labeled open drums sitting beside the scrap drum trailer. Some of the liquid was observed spilled on the concrete. REMTECH cleaned up the spill. Some liquid was contained in one of the indoor HW containment trenches. REMTECH agreed to remove the liquid.

During the June 28, 1996 inspection, PADEP observed several hazardous waste drums stored outside containment, outside of the building due to drum shuffling for incoming wastes. A trailer containing the drum crusher was leaking material onto the trailer tires.

REMTECH stated they would contain the leak. One drum of residual waste destined for solidification with fly ash was leaking into its unlidded overpack drum. Drums leaking residual waste onto the concrete surface were observed at several locations in the outdoor residual waste drum storage area. PADEP recommended REMTECH place greater effort identifying and remedying leaking drums. White powder was observed in the indoor hazardous waste containment trench of the corrosives storage area. REMTECH agreed to clean this up.

During the August 25, 1996 inspection, the Department inquired about the cracked joints in the concrete containment area for the outside residual waste storage area. Remtech was scheduled to have the cracks repaired the following Saturday. Liquids from the drum crushing operation were present outside the drum crusher containment pan but inside the drum crusher building. Liquids were present in the southern trench in the HW storage area from a leaking hose. The Department recommended that these liquids be removed from behind the crusher unit and Remtech agreed. Misabeled drums were noted. A violation was noted for de-packing and re-packing of hazardous wastes outside of the HW containment area and outside of the building.

During the December 23, 1996 inspection, PADEP observed spillage from a tank truck parked in the outside residual waste storage area. REMTECH stated that this occurred while obtaining a sample from the tank truck, but the material did not reach the ground. A rolloff container mixing box was leaking a liquid with a sheen from the rear gate of the box onto the concrete pad. Two nonhazardous waste drums were leaking onto the ground. REMTECH attended to the drums during the inspection and would attend to the leaking mixing box. Crack repair in the concrete containment area was ongoing. Violations noted during the inspection were related to inaccurate/incomplete/missing labels and exceeding stacking requirements.

During the March 28, 1997 inspection, PADEP observed a drum in the outside residual waste storage area was leaking onto the ground. REMTECH attended to the drum during the inspection. Violations noted were related to inaccurate/incomplete/missing labels and lack of no smoking signs in the laboratory. An NOV was issued by PADEP on April 17, 1997 and a CACP was issued on November 6, 1997 for these and several manifest review violations that occurred on July 15, 18, and 31, 1997 and September 2, 1997.

During the June 5, 1997 inspection, PADEP observed a mixing box was leaking liquid. PADEP requested the source be investigated and repaired. REMTECH responded on June 6, 1997 that the leaking mixing box was removed from service.

During the September 23, 1997 inspection, PADEP observed a hard black substance, identified as waste molasses, spilled on the pavement next to the containers in the outside residual waste storage area. The surface of the concrete downslope of the material was also discolored. REMTECH immediately cleaned up the spill. Exposed waste was observed in the bottoms of crushed drums that were uncovered and awaiting placement into trailers. Violations noted were related to inaccurate/inadequate/missing labels and improperly stored drums. An NOV was issued by PADEP on October 27, 1997 and the final CACP was issued on January 21, 1998.

The USEPA conducted a RCRA Compliance Evaluation Inspection of the REMTECH facility on April 1, 1998. The facility was operating under a Part B permit and was a large quantity generator of hazardous waste and a hazardous waste transfer facility. The

USEPA inspected the inside and outside storage areas and the stormwater retention pond and conducted a records review. The drums, tanks and outside storage areas, as well as available reports were satisfactory. The inspector noted a green material on the asphalt during the inspection. REMTECH stated the material would be cleaned up. No other problems were observed during the inspection.

On October 9, 1998, PADEP conducted an inspection in response to a complaint that REMTECH was accepting more hazardous waste drums than the permit allowed. During the inspection, PADEP observed fiber drums in poor condition containing household hazardous waste and nonhazardous waste. The sump below the mixing boxes had an oily sheen on the top. REMTECH placed absorbents in the sump. REMTECH employees were in the process of cleaning up a spill of hydraulic oil from a broken line on a track hoe used to mix fly ash with residual waste. An in-transit trailer was observed to be leaking lead/chrome waste. REMTECH placed a drum under the leak and placed absorbent pads on the ground. An oily sheen was observed on a pad around the scrap metal trailer, refurbishing trailer, and drum crusher. Drums of hazardous waste stored over one year. PADEP issued an NOV on November 13, 1998 for the lead/chrome waste leak from the in-transit trailer and REMTECH's failure to immediately implement their PPC plan related to the leak. The initial CACP was subsequently issued for these violations on May 3, 1999 and was revised on July 7, 1999 to include labeling violations observed during the March 31, 1999 inspection.

During the October 26, 1998 inspection, PADEP observed liquids leaking from the scrap trailer outside the residual waste storage area; waste was observed on the ground between three mix boxes (REMTECH employees were cleaning up the waste during the inspection); one mix box was leaking and may have had a hole in it; several drums were leaking (these drums were transferred to overpack drums during the inspection); and one fiber drum of nonhazardous was open. Inadequate aisle spacing, inaccurate record-keeping for drums in the hot box storage unit, and container stacking issues were also noted. REMTECH restacked the drums in the presence of PADEP. Liquids and accumulated solids were observed in the sumps. NOTE: REMTECH stated during the inspection that a permit modification would be submitted to forgo building additional buildings and permit the existing area for residual waste storage along with the inclusion of adding several tanks without increasing the maximum storage capacity.

During the March 31, 1999 inspection, PADEP observed a partially cleaned up spill in row N8 in the residual waste storage area; several drums were observed to be leaking; a mixing box had holes along the base and was leaking (REMTECH was cleaning up the spill during the inspection and the mix box was taken out of service for repairs); another mixing box was leaking from the gate (REMTECH employees were cleaning up the spill); the track-hoe used to mix residual waste and fly ash was leaking hydraulic fluid; and liquids were observed under the scrap metal container (REMTECH cleaned up the liquids during the inspection). Drum stacking issues were also noted (REMTECH restacked the drums during the inspection). An NOV was issued for labeling violations on May 5, 1999; a CACP was issued on July 7, 1999.

### 3) CCI

During the August 8, 2000 inspection, PADEP noted that the concrete curb on the south end of the sludge bulking area was replaced as recommended during the April 18, 2000 inspection. Some waste spills were observed on the pavement in three areas of the



outside staging area (CCI would clean up these spills immediately). It was also noted that 5 homeowners within 0.5 miles of the facility had their well water sampled/analyzed quarterly under Act 108; 20 homeowners (identified as non-Act 108) had their wells sampled/analyzed annually. One violation was noted (hazardous waste biennial report not submitted) for which an NOV was issued on November 6, 2000 and a CACP was issued on January 16, 2001.

The January 18, 2001 PADEP inspection report notes that on December 28, 2000, an employee dropped a 30-gallon drum of methoxychlor pesticide waste onto the ground, the top came off, and the liquid splashed on an employee's body and face. No permit or manifest violations were noted for this incident.

During the April 3, 2001 inspection, PADEP observed leaks of bulking material onto the concrete around the rolloffs. The containers had deteriorated with rust and holes. CCI stated new steel containers were being designed to replace two of the rolloffs.

Kiln dust was observed on the grass behind the bulking operations in the outdoor staging and storage areas during PADEP's January 30, 2002 inspection. The report also indicated that the construction of the new building in accordance with the major RW permit modification approved on August 30, 2001 was set to begin. Three piezometers were installed to measure the groundwater elevations in accordance with Permit Condition 16 of the RW permit. On April 4, 2002, the facility notified PADEP about improvements to be made to the receiving and processing operations of kiln dust in the residual waste building.

PADEP observed waste piles on the pavement between rolloff boxes in the bulk processing area during the October 7, 2002 inspection, and recommended the liquids beneath the indoor ASTs be cleaned up. PADEP issued an NOV on October 16, 2002 for the waste piles and several other violations observed during the inspection related to damaged containers, inadequate aisle spacing, illegible/missing labels, and storage of hazardous wastes outside the hazardous waste building. Subsequently, a CACP was issued on December 30, 2003. PADEP noted that all violations were resolved during the January 8, 2003 inspection; however, the inspector observed an employee shoveling waste from the pavement to the rolloff box in the outdoor storage area. Red-colored snow was observed on the pavement next to one box. CCI stated the dust became airborne during bulking operations. PADEP recommended cleaning up the area and disposing of the dust. Several hazardous waste drums were stored outside of the south end of the building.

During the April 9, 2003 inspection, PADEP observed oil sheens on the pavement outside the west end of the hazardous waste building and requested these areas be cleaned up immediately.

During the September 17, 2003 inspection, PADEP observed a waste storage tote stored on the grass behind the bulking area with waste in the bottom, a rolloff container was leaking waste onto the ground and surrounding area, and fiber drums were not covered. PADEP issued an NOV on August 26, 2003 and a CACP on December 30, 2003 for these and other violations (labeling, storage of hazardous waste in excess of one year, and an open hazardous waste drum) observed during the inspection.

PADEP observed three drums of nonhazardous waste in the loading area next to the

building during the December 8, 2003 inspection. The ground around the drums appeared to be oil-soaked. PADEP recommended CCI clean up the area.

On May 28, 2004, CCI informed PADEP that they had mishandled hazardous wastes on May 22, 2004. This included improper coding and subsequent processing of hazardous as residual wastes in the residual waste building bunkers. The wastes included approximately 550 gallons of a combination of nonhazardous liquid resin and corrosive and flammable hazardous liquids. The wastes were segregated and transported offsite for disposal upon PADEP's approval. PADEP subsequently issued an NOV on June 7, 2004 and a CACP on December 2, 2004.

The September 7, 2004 PADEP inspection report indicated that the facility had changed from kiln dust to saw dust to bulk liquid residual wastes. Other residual wastes are bulked using paper. A violation was noted pertaining to open/missing bung caps on two hazardous waste drums.

A January 4, 2005 PADEP inspection was conducted due to a complaint regarding a reported release from Cycle Chem's residual waste processing building on January 3, 2005. The General Inspection report indicated that an exothermic reaction occurred when outdated sodium hydroxide pellets were added to the residual waste mixing pit that contained some water/fluid. The wastes were being solidified with sawdust. Release of a large quantity of water vapor to the atmosphere occurred via the open doors. Vapor was traveling vertically upward before being dispersed by the wind. The residual waste mixing pit and several rolloffs in the building containing this material were flooded with water. Leachate was collected and handled appropriately. Emergency crews were dispatched to the facility. PADEP recommended that 1) Cycle Chem find an alternate method of handling this waste stream, particularly if there was some recycling value to it; 2) Re-evaluate how to prevent this "disconnect" between the laboratory staff and the operations staff so that future problems can be prevented; 3) Notify the Department immediately should any future incident similar to this occur; and 4) the Department requested that Cycle Chem update their PPC plan to provide for notification to the Department whenever a release from the facility occurs and submit the plan by February 1, 2005. PADEP issued a CACP on July 5, 2005.

On February 14, 2005, CCI responded to the General Inspection Report recommendations pertaining to the January 4, 2005 PADEP inspection.

On November 13, 2008, the USEPA issued an NOV to CCI for violations observed during the CEI conducted jointly with PADEP on December 5, 2006. The inspector observed open containers under the hoods in the quality control laboratory, cracks in the curbing in the lower portion of the facility by the stormwater retention pond, improper stacking of containers in the warehouse, a leaking container in the unloading area identified as the 10-day in-transit storage area (immediately overpacked), and missing/outdated information in the closure plan. CCI provided the USEPA with responses to the NOV on December 5, 2008. The USEPA noted that all items except the missing/outdated closure plan information were returned to compliance by June 8, 2007.

On November 1, 2008, a 5 gallon pail containing 10-20 pounds of aluminum powder was knocked over into a 55-gallon drum containing 100 pounds of solvent sludge creating a reaction that resulted in a fire. There was no threat to public health or safety or the environment. Fire was contained in the original drum and extinguished using fire

extinguishing agent. PADEP was notified on November 4, 2008, not within 24 hours per PPC Plan requirements. PADEP issued an NOV on December 2, 2008 to CCI for: 1) failing to take precautions to prevent accidental ignition or reaction of ignitable or reactive wastes; 2) failing to operate the facility to minimize the possibility of a fire; and 3) failing to notify the Department of the fire. These actions constituted unlawful conduct and a public nuisance pursuant to the Solid Waste Management Act.

As a result of site visits on August 26 and September 23, 2009, and a meeting between the PADEP and CCI on September 2, 2009, a Hazardous Waste NOV dated November 28, 2009 was issued to CCI. Violations included: 1) Crushing of listed hazardous waste (waste paint) and fluorescent light bulbs not in accordance with operational plan submitted as part of the permit; failure to label one drum of HW; 2) processing of HW with RW; 3) failure to locate cubic yard box of HW and 4) two 7-gallon pails of HW paint in facility based on operating records. Additionally, a November 28, 2009 RW NOV was issued to CCI as a result of PADEP site visits on August 26 and September 23, 2009, and a June 17, 2009 incident (an explosion and subsequent fire occurred in Pit #3 of the nonhazardous waste building at the CCI facility). PADEP was notified of the incident on August 26, 2009 (75 days after the explosion and fire). Violations included: 1) failure to operate the facility in a manner that prevents the potential for explosion and a release of solid waste; 2) failure to immediately notify PADEP of emergency; 3) failure to secure PADEP approval of both the cleanup and the resumption of operation of the residual waste processing Pit #3; 4) mixing of solid waste with other solid waste to create a risk of explosion and accumulation of harmful vapors or gases; 5) failure to minimize conditions that create safety hazards; and 6) failure to perform a bucket compatibility test prior to mixing wastes in Pit #3.

As a result of the Department's request during the September 23, 2009 inspection, the secondary containment zone beneath the RW mixing pits/bunkers was monitored via Department oversight. It was noted that one inch of liquid had been documented during each weekly inspection since the beginning of the calendar year; however on September 23, 2009, readings for all three detection zone monitoring points were approximately 12 to 13 inches of liquid. A file review documented that the weekly monitoring of the secondary containment structure indicated that liquid was observed in the secondary containment structure each week since June 29, 2007.

On October 1, 2009, PADEP conducted an unannounced follow-up inspection regarding the potentially compromised integrity of the RW processing pits/bunkers. The purpose of the inspection was to investigate the cause of a dramatic increase in the amount of water in the secondary containment zone beneath each of the processing pits. Liquid levels in the pit monitoring wells were 12 to 14 inches. CCI suspected that pressure washing of the floors on the weekend of September 19/20, 2009 may have caused the level of liquid in the secondary containment zone to increase. PADEP obtained a sample of the liquid from the center pit monitoring well. At the request of PADEP, CCI emptied the pits and removed them from service until an evaluation of the pits could be conducted. Shortly thereafter, each pit was individually filled with water to a certain level and it was determined that Pit #2 contained a leak. On October 9, 2009, the facility returned Pit #1 to service.

On October 14, 2009, PADEP visited CCI to sample the liquids that were pumped from the mixing pit leak detection zone and monitoring wells. The leaks were believed to have been caused by the installation of steel plates in Pits #2 and #3. Daily operations may

have caused the bolt holes in the concrete to expand causing an avenue for migration of liquids into the leak detection zone.

On October 26, 2009, PADEP received notice that a fire occurred in Cycle Chem's laboratory earlier in the day from approximately 1 gallon of mixed solvent waste. The fire occurred while the lab technician was performing a test. The fire was contained within the fume hood and was put out using a fire extinguisher. Cycle Chem believes flammable vapors emitted by either a solvent spill from a squeeze bottle or from vapors via the solvent waste bottle caused the fire.

On December 3, 2009, a PADEP inspection was conducted as a result of CCI informing the Department on December 2, 2009 that recent bulking and disposal of ignitable hazardous wastes received on November 18, 2009 was not conducted in accordance with the operational plan submitted as part of the permit. The two drums came in profiled as nonhazardous; however upon arrival, a composite sample of the two drums indicated a flashpoint of less than 140°F. The two drums were scheduled to be sampled/tested individually, but were inadvertently bulked in a rolloff container on November 20, 2009 and sent to Cumberland County Landfill on November 24, 2009 under a special handling waste manifest. PADEP issued an NOV on December 16, 2009 for this offense. PADEP also inspected the residual waste treatment/storage areas. Pit #1 (noted as Bunker 1 on drawing C3 of the HW permit application), see Appendix B: Figure 5, was being used to bulk solids and Pit #2 (aka Bunker 2) was empty. CCI explained that, in conjunction with their engineer, it appeared that the seam between the two concrete slabs where the sloped ramp met the bottom of the bunker may have been the point where leakage occurred. Engineering/design and solicitation of bids was underway for repairs to Pit #2. Pit #3 (aka Bunker 3) was used to store sawdust. A load of residual waste was being bulked into a rolloff container.

Four groundwater monitoring wells were installed on December 21, 2009 and the first two sampling events occurred on January 12, 2010 and February 16, 2010.

During a Hazardous Waste Compliance Evaluation inspection on February 17, 2010, no violations were noted; however PADEP recommended that CCI monitor/repair small indentations in the floor of the caustic hazardous waste warehouse. Observations in the residual waste building noted that Pit #1 was being used to bulk solids, Pit #2 was full of solidification agent, and Pit #3 was used to store sawdust. The data loggers had been installed in the mixing pit leak detection zone wells to alert employees when liquid was present in the secondary containment zone of the mixing pits.

On the April 1, 2010 site inspection report, PADEP noted that the stormwater retention basin liner was floating near the south end of the basin. An NOV was issued on April 5, 2010 and a remediation report was submitted on April 29, 2010. PADEP approved the plan on May 28, 2010.

During the April 20, 2010 hazardous waste inspection, a cleanup operation was underway for a drum that had fallen and began to leak. The container had held corrosive wastes. The spill had already been cleaned up and no materials exited the containment trenches. The floor problems noted during the February 17, 2010 inspection had been repaired. In the residual waste building, PADEP questioned why liquids were still getting into the secondary containment underneath the residual waste mixing pits. CCI stated that the secondary containment had been constructed past the mixing pit areas and that there were

water lines installed above the secondary containment liner. These lines were the source of the water getting into the containment. The lines were capped and readings indicated that the levels in the containment stabilized. PADEP questioned why the water had not been removed from the containment; CCI indicated that they did not want to pump out the water until it was determined if the leaking water lines were the source.

PADEP conducted HW and RW site inspections on July 29, 2010. Materials were noted in Pits #1 and #3, and Pit #2 was empty. No violations were noted.

The PADEP site inspection report dated August 16, 2010 included a violation pertaining to the ignition of flammable gas (hydrogen gas) from a waste container as a result of the container being cut open on August 2, 2010. The employee was cutting the top of the waste container that was misidentified (silicon carbide and water mixture) at which time hydrogen gas was formed and ignited. No release of material reportedly occurred. A written report was requested by PADEP.

PADEP entered into a COA on October 25, 2010 for numerous violations documented in 2009, which are summarized below in *Section A.4. Consent Order and Agreements/Consent Assessment of Civil Penalties*.

On November 18, 2010, during a routine residual and hazardous waste inspection the Department noted that CCI was addressing components of the October 25, 2010 COA pertaining to labeling/tracking of wastes. A violation was noted pertaining to one leaky 20 cubic yard RW container located in front of the processing building. Additional staining was observed near the container's storage area. The RW inspection report indicated that the container was stored adjacent to a surface water drain, which would deposit the waste outside of the storage area. The HW inspection on November 18, 2010 noted a violation that CCI failed to accurately label one 5-gallon container stored in the RW storage area. It was labeled as HW, but was determined later in the inspection that an administrative error occurred and the container was not properly labeled. During a routine RW site inspection the Department noted a rolloff container was being used to process the waste while the pits were being repaired (i.e. the walls/seals of the bunkers were scheduled to be repaired). The RW mixing pit detection zone data loggers were also being fixed. As a result, the detection zone was being monitored manually. The data graph indicated increasing liquid levels in the leak detection zone. CCI's environmental consultant would be conducting an investigation for the source of liquids. The wells would be pumped when the liquid level reached 12 inches.

During the March 4, 2011 inspection, the Department requested verification of several containers noted during the inspection in different storage areas. The containers were verified in the database system to be where they were supposed to be. This was the second consecutive inspection where CCI was successfully able to verify the physical location of containers in the inventory system. In the residual waste building it was documented that Pit #1 held sawdust for solidification, Pit #2 was empty and Pit #3 held solidified waste. One rolloff container was still being used for processing waste. Recently, CCI had replaced the fire suppression system in the hazardous waste building due to a small leak.

RT Environmental on behalf of CCI provided an inspection report of the pits (bunkers) during their reconstruction early in 2011. The stone within the leak detection system below the concrete base had no significant degradation and there was a high percentage

of void space. There was no indication of waste sludge in the void space all the way down to the liner. The geotextile atop the liner was intact. A test was conducted via adding liquid to the exposed leak detection zone and a response was received at the observation points within 4 to 24 hours. It was concluded that there was no indication of degradation of the stone and no tears to the liner were suspected. As a result, they decided there was no need to remove stone or make repairs or modifications to the leak detection system. It was recommended that work continue as planned to replace the pit concrete bottom and ramp area.

During the PADEP inspection on May 17, 2011, CCI mentioned that the proposed Outdoor/Covered Hazardous Waste Storage Area D construction was scheduled to proceed after the pit construction was completed. Due to USEPA ID discrepancies noted during the inspection, PADEP requested that CCI review the SOP with employees that handle customers who do not have an USEPA ID to ensure the correct USEPA ID is used when shipping hazardous waste. In the residual waste building, the residual waste pits were not operating. The mixing of residual waste was still being conducted in a rolloff container. CCI mentioned that the leak tests were performed on the residual waste pits after the construction was finished. The leak test failed for both Pits 2 and 3 and CCI and the construction company were in the process of resolving the leaking pits.

On August 15, 2011 PADEP conducted a HW compliance evaluation inspection and a RW routine inspection. Prior to the inspection, the Department received notice that the residual waste pit reconstruction had been completed and all pits were now in operation. Two 55-gallon drums were observed to have pin holes in the Area D receiving area. An employee immediately overpacked the drums. A violation was noted due to CCI not submitting an annual report to the Department for 2010 by June 30, 2011. The scheduled Outdoor/Covered Hazardous Waste Storage Area D construction was still in the process of the local building codes review.

The Department conducted a hazardous and residual waste site inspection on November 30, 2011. No violations were noted; however the wall on the West side of the RW building, near the bunkers was damaged. Paper pulp, used for mixing, had been pushed through the wall and was deposited outside the building. Employees were called to clean up the pulp that was outside the building. In the Outside Storage Area S2: the last row of drums was slightly leaning, due to incorrect stacking. PADEP recommended that CCI submit to the Department photos showing the repairs to the damaged wall near the bunkers and also review proper container stacking procedures with employees to ensure safe storage of solid waste.

Prior to the Department's February 1, 2012 site inspection, notification of a January 30, 2012 spill was documented. It was stated that the contents of the drum was sodium hydroxide sludge. The spilled material froze on contact with the concrete. No violations were noted during the February 1, 2012 site inspection; however the Department recommended that: 1) stacking of containers must not create a safety hazard as a result of one row of residual waste drums noted as leaning due to the slope of the concrete and height of the bottom container; 2) CCI ensure that electronic waste is covered while being stored outside at the facility; and 3) CCI review the hazardous waste permit and ensure that containers are only staged and stored in permitted areas throughout the facility. After the inspection, the Department received an incident report of the recent spill. Another documented spill occurred on February 1, 2012, by another company's transport vehicle (AEG), while parked across the road from CCI, at the intersection of Grandview

Drive and Industrial Drive. Information pertaining to this spill is included in *Section B.5.q. – Releases, Spills and Other Related Incidents* and *Section B.7.r. – Hydrogeology Assessment – First Quarter 2013 to Present-Day* of this EI report.

The May 18, 2012 residual waste inspection report noted a violation pertaining to a 5-gallon container labeled residual waste, containing a liquid waste, being stored in Area S2 and found to be leaking. The Section B Operating Plan, Form P, of the RW permit issued to CCI (ID# 301280), states that non-bulk containers holding sludges or liquids will not be stored in Area S2 and S3 (the outside residual waste storage area). Later findings from CCI indicated that the residual waste containers that were holding liquids were not being stored in Area S2, but were in fact stored within the permitted residual waste staging area per an updated site plan. As such, the violation noted during the inspection was dismissed.

The HW May 18, 2012 hazardous waste inspection report noted a violation pertaining to hazardous waste containers not being properly stacked to ensure safe management of the hazardous waste containers in Storage Area F. The violation was immediately corrected during the inspection via restacking the aisle.

On July 10, 2012, the PADEP hazardous waste inspection documented a violation pertaining to CCI transporting and storing of TCE-still bottoms contrary to the rules and regulations of the Department and the facility permit. CCI had thought the waste was exempt from RCRA regulations due to a recycling exemption. HW notifications were not submitted to the Department in order to manage secondary HW materials under the HW secondary material exemption by the generator of the material or CCI. Manifests dated from June 2011 to March 2012 showed four different shipments of TCE transported by Clean Ventures to CCI without a HW identification code for the material. The manifest records document that TCE still bottoms were shipped to CCI on multiple occasions without a RCRA waste code from January 2010 to March 2012.

No violations were noted during the August 29, 2012 PADEP hazardous and residual waste inspections. In the RW building, Pits #1 and #2 were being used to process waste and Pit #3 for storing solidification material. The construction of the proposed Outdoor/Covered Storage Area D for hazardous waste continues to be delayed due to the township review of the construction plans, specifically the fire suppression system. It was estimated that the construction would not take place until the spring of 2013.

No violations were noted during the November 15, 2012 PADEP hazardous and residual waste inspections. Two minor cracks were documented in the HW building near tank #1. The Department recommended that the cracks be monitored. If the cracks increase in size, they will need to be repaired. In the RW building, the pits were being used to process waste.

On February 7, 2013, the PADEP hazardous and residual waste inspections documented a HW violation pertaining to the Act 108 private well quarterly sampling requirement in accordance with HSCA §6020.304(c)(1) which states, “Upon written request from persons owning property within 2,500 feet of a commercial hazardous waste storage, treatment or disposal facility, the operator of the facility shall have quarterly sampling and analysis conducted of private water supplies used by those persons for drinking water....Cycle Chem failed to sample the water supplies of property owners who requested analysis during the third quarter of 2012. Samples were taken of the water

supplies during the fourth quarter of 2012.” PADEP discussed recommendations regarding the: submittals pertaining to the Act 108 survey; RW monitoring pit well leachate, onsite groundwater monitoring well and Act 108 private water well sampling/reporting procedures; “early warning” Act 108 submittals; data evaluation submittals; labeling of the onsite groundwater monitoring wells to coincide with lab data sheets; and submittal of the Groundwater Monitoring Plan and Form-13R as required by the October 25, 2010 COA. The proposed Outdoor/Covered Hazardous Waste Storage Area D construction was briefly discussed and the construction work was estimated to begin in April 2013. The processing pits in the RW building were being used during the inspection. The TCE exceedences at the MW-2 onsite groundwater monitoring well location during the third and fourth quarter 2012 sampling events were discussed. It was mentioned that if the concentrations continue to be elevated, an assessment will need to be conducted to verify if the TCE exceedences are due to an onsite or offsite source and in accordance with the Commonwealth’s Residual Waste Regulations, Pennsylvania Code, Title 25 §288.256 which requires determination of the existence, quality, quantity, areal extent, and depth of groundwater degradation, in addition to the rate/direction of migration of contaminants in the groundwater.

The USEPA Region III Office of Enforcement, Compliance and Environmental Justice (OECEJ) conducted a RCRA Inspection on June 10, 2013 and 3 violations were noted (i.e. Generators - Pre-transport, Listing – General, and Universal Waste - Small Quantity Handlers). On October 22, 2013 USEPA requested information from CCI. As a result, on February 26, 2014 CCI submitted documentation to USEPA pertaining to modification of the existing RCRA permit, closure plan, closure cost estimate, and other information to incorporate the long term storage of PCBs (i.e. PCB transformers, PCB contaminated transformers, PCB capacitors and other PCB items) at the Lewisberry TSD facility. USEPA letter to PADEP dated March 19, 2014 noted that USEPA was pursuing the issuance of an Administrative Penalty Order (APO) to CCI due to violations of RCRA Subtitle C.

No violations were noted during the August 27, 2013 PADEP hazardous and residual waste inspections. The tank inspection records indicated that the gauge on Tank #1 was repaired due to a faulty controller. The new hazardous waste outdoor/covered staging Area D was complete and awaiting engineer certification prior to being utilized. There were supersacks of NORM waste that was awaiting approval for offsite disposal as well as several 55-gallon drums of mixed hazardous/radioactive landfill leachate. In the RW building, the Pit #1 contained bulking material, the Pit #2 was actively being mixed, and Pit #3 contained bulked material awaiting offsite transport. CCI indicated that the liquid level in the mixing pit leak detection zone monitoring ports was at approximately at 6-inches and that the Department requires pumping at 9-inches. CCI mentioned that each inch is approximately equivalent to a volume of 100 gallons.

On October 3, 2013, PADEP conducted a general inspection in response to a complaint regarding the integrity of a secondary containment area in the hazardous waste building. CCI pointed out a small crack which had been sealed on February 7, 2013 at the request of the previous Department inspector. No violations were noted. PADEP recommended that CCI ensure that the hazardous waste tank containment systems are cleaned with sufficient frequency to determine if the area is free of chips, cracks, or other deterioration of concrete and/or epoxy coating in the containment area and trenches and that this be included as part of routine maintenance procedures at the facility. As a result of an accumulation of small quantities of solids and debris in the containment trenches/grates



as well as staging of materials (e.g. empty drums, maintenance materials, etc.) within the containment area, PADEP recommended that CCI ensure that staging of materials within the secondary containment areas does not interfere with the facility's ability to perform comprehensive daily inspections of the tanks and containment areas. The complaint was considered closed.

No violations were noted during the December 3, 2013 PADEP hazardous and residual waste inspections. In the hazardous waste building, the containment trenches within the building appeared to be cleaned since the previous inspection and were free of solids. Additionally, materials staged within the secondary containment system were removed per the recommendations of the Department's October 3, 2013 complaint investigation. CCI explained that portions of the epoxy coating on the newly constructed Outdoor/Covered Area D hazardous waste staging area were resealed recently, but that there were still problems with cracking. The facility is working with their contractor to address the issue prior to storing any waste there. In the residual waste building, Pits 2 and 3 contained bulking materials and Pit #1 contained a load being bulked. CCI explained that a rolloff container staged beside Pit #1 contained a bulked load of residual waste awaiting analytical results prior to offsite disposal.

No violations were noted during the February 25, 2014 PADEP hazardous waste inspection. The new Area D outdoor/covered hazardous waste staging area was not currently being used for its designated purpose; however, it was being used to store empty drums. CCI was currently exploring engineering changes that could be made to ensure strength and stability of the area. In the residual waste building, the mixing pits were not being used at the present time due to an increase in detection zone liquid levels in the pit monitoring wells. CCI was planning to address the pits sometime during the upcoming week. The current method for mixing was to mix the materials in a rolloff and then take out to be placed on a truck sitting on a floor scale.

No violations were noted during the May 28, 2014 PADEP hazardous and residual waste inspections. Area D was planned to be water tested by the contracted engineering firm on May 29, 2014. The RW mixing pits had not been in use since April 1, 2014 due to high accumulation of water in the leak detection zone wells. While out of use the pits were modified to be separated by foam and the joints were grouted and epoxy was applied. The mixing pits were again in use during this inspection. Pit #1 was full of bulking materials, mostly ground construction/demolition waste, and the other 2 pits were being used for bulking materials. Rows of drummed waste replaced the previous bulking dumpster in the corner of the room.

No violations were noted during the August 22, 2014 PADEP hazardous and residual waste inspections. In the lab area, the satellite containment area contained one 55-gallon drum of waste marked "PCB sample" and one 55-gallon drum of waste labeled "lab trash". They were both closed and labeled. The PCB storage area, which sits at the end of Row M in the hazardous waste warehouse building, did not house any PCBs. Note: PCB waste is not accepted; however when present, PCB wastes are stored for no more than 30 days before being transported to another location that can manage the waste. The new Outdoor/Covered Area D was currently being used as a staging area. There were drums seen in the old Area D. The Department noted a separation in the concrete containment pad outside of the new Area D that was approximately 3" wide and filled with soils. This separation was outside of the new Area D, but it was not behind the secondary containment sumps, and as a result would allow for possible contamination if

there were to be a spill in the new Area D. The Department noted a gray solid with a gravel-like appearance sitting outside the RW building by the East wall connected to Pit #3. Pit #3 contained the raw bulk/mixing material, which is currently paper product and mulch. The facility explained the wall requires repairs. Pits #1 and #2 were being used for mixing again after being repaired and sealed. The joints appeared to be sealed.

No violations were noted during the December 3, 2014 PADEP hazardous and residual waste inspections. The trucks now enter through the west gate, are scanned with radiation detection equipment on each side and unload materials in old Area D. The materials are then brought into the new Outdoor/Covered Area D staging area. The perimeter cracks seen in the previous inspection had been filled in, but the facility is still testing materials to determine which one will seal them properly. In the RW building, totes were awaiting to be mixed in the mixing pits. The pits had been inspected on November 11, 2014 and a worn out part was documented as needing replacement which was done prior to reusing the pits. CCI plans to line the RW building east wall adjacent to Pit #3 due to the gap allowing material dispersal outside. No materials were noted outside the building; however the CCI staff was cleaning the area during the site inspection.

No violations were noted during the March 4, 2015 PADEP residual and hazardous waste inspections. In regards to the RW building, previous facility inspection logs noted that due to the mechanical pressures of the mixing, residue leaked through the screw that attaches the metal sheet wall. The facility explained that they usually clean it up immediately after noting it. The facility mentioned that the mixing had been continuing despite the cold weather because the warehouse area is heated. There were three boxes of bulbs in the universal waste storage area that lacked packaging integrity. The facility explained they would correct this, and they pack up bulbs before sending them out. In the HW building, due to the cold weather, the waste paint drums are emptied as quickly as possible. If not, the paint freezes, and the facility will have to wait until thawing to bulk it. There were other drums that were frozen, notably oil and water mixes and chlorinated compounds. There were three drums of PCB ballasts in the PCB area, which were scheduled to go into the Clean Venture transfer trailer.

During the PADEP residual and hazardous waste inspections on May 27, 2015, no violations were noted. The Department of Environmental Protection viewed the radiation monitoring plan and went over the calibrations of the survey meters on the facility. The calibration dates for the meters were as follows: 11/2014, 8/2014, and 2/2015. The calibration date for the scale radiation monitoring was 6/30/2014. The facility source checks for the scale were also viewed. In the facility warehouse building H, numerous containers appeared labeled and closed. The sumps appeared to be free from debris and liquid. In WAREHOUSE BUILDINGS F/M/A, the Department viewed the lab pack area, checked the lab packs with a hand held radiation meter, and the flammable area. There were no PCB containers noted in the PCB storage area. The tank areas were examined for cracks and debris. The tank storage area E1, tank 1, had a wet area that was below the opening to the tank. The facility explained that there was a spill near that area and it was previously cleaned, however because of the compounds nature, water began to bind to it due to humidity. They began cleaning it again while the Department was on site. There were not any visible openings in the pavement

below the tanks noted. In AREA D & PERIMETER areas, there were lab pack materials noted outside of the lab pack area being staged to be repacked. The pond level was estimated to be approximately 3.5 feet, at 300,000 gallons. Area D contained numerous drums that were closed and labeled. The sump did not appear to be filled with water or debris. The facility explained that the sump is usually cleaned out when a heavy rainfall occurs. The cracks in the perimeter were closed. In the DANGEROUS WHEN WET AREA, there were two, 55 gallon, drums located in the area and one, 5 gallon, bucket. The drums were all dated for May 2015. In the C1 & RESIDUAL WASTE BUILDING, there were no issues noted with the drums and containers of hazardous waste being stored in C1. There was a large plastic sheet that covered the doorway and separated the mixing pits from the residual waste building. Behind the rear wall that reinforces the mixing pits, on the side that stores waste, there were wet spots due to the application of force onto the screws that attach the wall. The facility had foam encapsulating the screw heads, however they explained that they are trying to figure out how to remove the foam and add a new material to fortify the screws and prevent these pressure leaks. There were no wood chips or pulp noted outside of the mixing area. The pit monitoring wells were recently pumped out, and the east well had a measured 2 inch rise in the two weeks following May 2, 2015, which was the date of the last pumping. The Department viewed the radiation monitoring action plan, the weekly inspection, the daily inspection since March 4, 2015, the emission testing for the tanks, which was done on May 8, 2015, monitoring well logs, and randomly selected manifests.

During the PADEP hazardous and residual waste inspections on August 26, 2015, no violations were documented. In WAREHOUSE BUILDING H, there were numerous containers noted in the area during inspection and they all appeared closed and labeled. The sumps appeared to be free of solution and debris. In the WAREHOUSE BUILDING F/M/A & TANKS, the drums held in each area appeared closed and labeled. Paint was noted on top of a drum; however, it was discovered to be dried when the facility tried to wipe it. There was a leaking air compressor in the tanks area. The compressor is used to prevent water buildup in the lines used to pump out the drums designed for fuel blending. The facility explained that the substance leaking from the compressor was water, not any waste stream. The facility cleaned up the water during inspection. There were no new cracks or holes noted during inspection of the tank area floor. In AREA D & PERIMETER, some drums were noted in the area next to the hazardous waste storage building. The facility explained that these drums were being prepared to go through de-pack and repack that day. New siding was noted on the building, and the entry ways to each separate warehouse building were made larger to facilitate forklift flow. A large rolloff container being stored in the outdoor in-transit area, adjacent to the northern fence line and grassy area, was documented leaking during the inspection. Large cracks in the outdoor concrete containment pad were noted beneath the leak. It contained solid residual waste from P.H. Glatfelter. The waste was not labeled as a liquid waste, it was a solid waste. There were two leaks from the container. The facility corrected one leak during

inspection by sealing the end properly. The other leak was the result of a container flaw. This resulted in the leaking of contents onto the unsealed cracks in the container storage area. The soil in the crack was visibly wet. The facility arranged to have the container immediately removed in order to fix the container and empty it of its contents. Containers were noted in area D during inspection. There was one row of containers, outside of area D, waiting to be processed. The sumps in the area appeared free of liquid and debris. There was no radiation containing waste in the radiation area noted during the inspection. There was a swale of recently added rocks in the grassy area adjacent to the old entrance. The facility added these rocks using a back hoe that was used previously for the mixing of residual waste. The facility explained that this equipment was usually used for plowing snow in the winter, and was rarely used for mixing. In area C1 & the RESIDUAL WASTE BUILDING, the containers viewed appeared closed and labeled. The gaps in the wall that separates the warehouse building from the back wall of the mixing pits appeared to be closed. The facility repaired the wall with a fast drying cement mixture, and took away the screws that originally protruded out from the metal. The area above the weight bearing wall was sagging over the top of the weight bearing wall. The facility explained that they sometimes clean this area of the debris that will fall over due to pressure during mixing. The wall appeared to overhang, and below the wall there was discoloration on the weight bearing wall. The facility explained that they recently put out bids for the contracting project. The wall was estimated to be fixed in approximately 2-3 months. Saw cuts were noted within the protective curbing surrounding the mixing pit leak detection zone monitoring port wellheads. CCI mentioned that the saw cuts were created to allow the leachate that had been migrating through the rear wall of the mixing pits to drain out of the protective leak detection zone wellhead curbed area. Prior to the saw cuts, leachate had the potential to flow directly into the mixing pit leak detection zone via the sampling port wellheads. There were not any apparent leaks outside of the building. The Department viewed randomly selected manifests, daily inspections dating from May 27, weekly inspections, and leak detection zone well monitoring information. The center pit leak detection well did not have monitoring information for the previous weeks. The facility explained that they needed new monitoring equipment and the equipment they received did not work. The facility plans on ordering new equipment, but it will not arrive for a few months. The Department recommended: 1) sealing the cracks noted in the parking lot; and 2) ensuring that all equipment used on site for waste processing is decontaminated prior to use outside of the facility.

PADEP issued an NOV to Cycle Chem on October 16, 2015 for leakage surrounding the bolts which attach the metal sheeting to the rear mixing pit bunker wall in the Residual Waste building. The leakage was visible on the outer rear bunker wall, in the indoor residual waste storage area. There was visible leakage occurring outside of the residual waste mixing bunker as noted in the March 4, 2015 inspection. During the August 26, 2015 inspection, PADEP noted solids from the bunkers extruding through the rear wall that overhangs the

concrete wall along with staining on the outer rear concrete wall in the indoor residual waste storage area. It was apparent that the facility continued use of these mixing pits for approximately five months after the leak was noted in the March 4, 2015 inspection, without a more thorough inspection and corrective action. Further inspection of the compromised wall would have allowed the facility to note the overhang and discharge of the material. PADEP noted in the August 26, 2015 inspection that the facility cut the berm surrounding the mixing pit leak detection zone wells located adjacent to the rear bunker wall and the indoor residual waste storage area. The facility explained that these were cut to prevent fluid buildup from entering the leak detection zone wells. The facility failed to suspend affected activities and plan a timely response to the leak; instead cutting the protective berms surrounding the leak detection zone wells to prevent mixed wastes/leachate from entering the leak detection zone wellheads. Prior to restoring tanks to service following repair, the tank is required to be certified by a registered professional engineer as meeting the design specifications approved in the permit. The bunker wall was repaired and in use by August 19, 2015, however, PADEP did not receive the RT Environmental correspondence (Completion of Rear Bunker Wall Repair) until September 14, 2015 and had not received Form 19R (Certification of Construction Activity) to date.

On November 24, 2015, no violations were noted during the inspection. The Department viewed the weekly inspection and daily inspection logs dating back to the last inspection, the leak detection pit well levels, the BB and CC tank inspection forms and some random manifests. The facility recently got a new data logger because the one previous was bumped and dropped during construction a month ago. The facility put new bottom valves on the tank so they have been monitoring monthly since the original vapor test on October 2, 2015. In the ACID AND BASE AREA, numerous containers were being stored. They appeared closed, labeled, and within the acceptable storage time limit. In the Tanks area, there was no buildup in the sumps around the caustic or flammable tanks. The area appeared to be free of cracks and debris. The facility explained that the tanks are emptied out rather routinely. The caustic tanks are emptied out almost weekly. The flammable tanks are emptied out twice a week approximately. They are emptied on a need based determination. There were numerous drums noted in the LAB PACK, FLAMMABLES, AREA D and HAZARDOUS WHEN WET areas. They all appeared closed and labeled. Cycle Chem is undergoing a permit approval process for long term storage of PCBs in area M. The Department is awaiting information involving bonding and the integrity of the flooring below area M. This would be done by removing the containers and having a certified engineer ensure there are no cracks in the area. The sumps around area D had some solution buildup, approximately 3 inches. The collection pond was below the required level for emptying. There were very few hazardous when wet containers inside the sheds and they all appeared closed and labeled. In the RESIDUAL WASTE BUILDING, the containers of hazardous waste appeared closed and labeled. The facility explained that the mixing of hazardous waste occurs inside the lined roll-off, not in mixing bunkers. The roll-off was closed and

labeled. It also was covered and lined. The mixing pits appeared to be filled with media to the wall above the dividers during inspection.

On March 7, 2016, no violations were noted during the PADEP inspection. A Maumee express truck was noted parked in front of the facility during the inspection. The facility explained that trucks that have incorrect inventory manifests must wait until everything is tested and determined before receiving the manifests signed. The driver was waiting for sampling results. The Department viewed the daily inspection logs, the weekly inspection logs and the mixing pit leak detection zone well logs dating back to the last inspection. These pit wells were pumped last on January 30, 2016 during the last groundwater sampling event. The current level inside the leak detection zone wells is approximately 3 inches. The sumps were recently pumped out, and have been managed multiple times according to the inspection report. Random manifests pulled during inspection were also viewed. In the ACID AND BASE AREA, the sumps appeared empty during inspection and the containers were noted closed and labeled properly and also dated within the acceptable storage time limit. In the LAB PACK and FLAMMABLES areas, the sumps appeared free of liquids. There were no PCB wastes noted during the inspection. The lab packs were being processed while the Department was on site. In AREA D/DANGEROUS WHEN WET AREAS, Area D appeared free of cracks. The sumps had a light amount of liquid in them, approximately 1 inch. The containers appeared closed and labeled. The dangerous when wet area contained 4 small containers and two drums in each of the areas. In the TANK AREA, there were no apparent leaks documented during the inspection. The gaskets had absorbent spill material in the bucket below. The sumps were free of debris and liquid. There were no visible cracks in the tank secondary containment area. The exterior pond was at a level of approximately 3 feet. The recent snowfall filled up the pond. As a result, the pond was emptied 3 times in February. There was still snow on the two areas with empty container storage: one by the incoming residual waste and the other by the flammable when wet area. The snow contained pieces of debris from the parking lot. The facility explained that as the snow pile recedes, they clean up the surrounding area. The area outside of the snow pile appeared free of debris. The snow melt went into the pond where the water is analyzed before release. There was a large cracked area in the sidewalk besides the empty container area for the residual waste staging. The facility had a contractor coming in the day of inspection to view the area and offer a quote on the repair. The repair could be an addition of sealant or a new pad added to the area. The crack is between the meeting of two pads, and the depth was not determined.

On June 8, 2016 the Department of Environmental Protection ("Department") conducted an unannounced inspection of Cycle Chem Inc. No violations were noted during the inspection; however, the report indicated:

- On May 19, 2016, a PH Glatfelter roll-off container was steaming upon entry. The facility explained that the material inside was calcium oxide, a residual waste. PH Glatfelter theorized that a small chunk of

sulfur got into the load, and the facility reported a yellow substance In the middle of the load. PH Glatfelter usually takes steaming loads and mechanically mixes them on a pad at the facility before shipment in order to 'deactivate" it. The core temperature on the incoming load was estimated at approximately 600 degrees Fahrenheit. Cycle Chem mixed the load before it was sent to Modern Landfill, which is the usual protocol for these loads.

- On June, 4, 2016, a lab pack processing fire started. The fire was small, reported as approximately a fist size. This occurred in the lab pack area inside of the flammable storage building. The box was taken outside and vermiculite was added to the fire. The facility then took a fire extinguisher to the fire when it continued to burn. The box was also residual waste, and mixed with the residual waste mixing pit waste stream.

During the June 8, 2016 inspection, PADEP viewed the daily and weekly inspections, as well as the leak detection zone monitoring well liquid levels. There was no mention of the second event, the one on June 4th, in the daily inspections. The leak detection zone well liquid levels were approaching the maximum 9 inch base level and will need to be pumped soon. The Department also viewed randomly selected manifests at the end of the inspection. In the ACID and BASE AREA, the sumps appeared clear of liquids and debris. There were numerous drums noted that appeared closed and labeled. In the LAB PACK/FLAMMABLES areas, the sumps appeared clear of liquids and debris. There were numerous pump trucks noted behind the facility. There was one container of PCBs in area M. In the TANK AREA, wet spots were noted. One spot was located in E2, which is located on the north side of the facility. There was a small liquid stain under the tank labeled corrosive. The facility explained that this is water coming in from the roof. There was also an area on the back wall that appeared wet and oily. The curb outside was 6 inches above where the oil container outside was being stored. The facility explained that this was due to the siding outside cracking and water running through. The facility explained that they plan on fixing the roofing to the hazardous waste flammable storage building and tanks area. It was raining earlier in the morning during inspection. The facility cleaned up the liquid near the corrosive tank during Inspection. In AREA D, there was a small amount of water in the sumps. There were four large slabs of concrete, located near area D, closer to the empty container storage area in the back of the lot, scheduled to be replaced. There was also approximately 3 feet of two other pads/slabs, scheduled to be replaced. The facility is contemplating whether to pour a single unit or replace each block separately and then filling in the borders. In the DANGEROUS WHEN WET area, there were 4 drums as well as numerous 5 gallon containers noted which appeared to be closed and labeled. In the RW outdoor staging area, there were numerous drums which appeared to be closed and labeled. No leaking drums were noted, although the day was rainy. There was a small pile of dark silt-like material near the storm drain. The facility cleaned up this material while the Department was

onsite. The boom inside of the storm drain near this area appeared dirty. In the RW storage area, numerous drums were noted which appeared to be closed and labeled. There were no visible leaks noted during inspection. In the RW mixing pit area, the facility installed a temporary wall on the east side of the building. They would like to begin mixing in the pit that is nestled against the building wall. This pit was previously used to hold media. During inspection it was used to hold media. The Department expressed concerns about the use of the pit over capacity, due to the wall on the side of the building that was noted to have leaked media in previous inspections. The back wall of the mixing pits, which was previously exposed in the residual waste storage area, had noticeable hairline cracks near where the earlier screws were documented. There were numerous cracks along the outer back wall of the mixing pits; however there was no wetness noted around the cracks. The facility explained that they will fix the cracks. The Department recommended that: 1) CCI repair the cracks in the outer back wall of the mixing pits that were seen during inspection and notify PADEP when the repairs are scheduled and finished; and 2) CCI report to the Department using the incident report whenever any incident occurs involving the waste processing, storing or shipping. An email from Cycle Chem (Terry Earnest) to PADEP (Kiah DeSarro) was received on August 25, 2016 with pictures indicating that the RW mixing pit rear wall had been repaired.

**c. Air Permits, NOVs and Inspections**

**1) IWR**

No air permit information was found in the regulatory files for IWR.

**2) REMTECH**

State Only Operating Permit 67-03046

According to the September 27, 1993 Final RCRA Facility Assessment (RFA), the initial air permit (67-399-016) was issued on April 3, 1990 for emissions from the new hazardous waste storage tanks that were installed in 1990. Prior to January 11, 1990, the facility notified the County and indicated the facility upgrade involved the installation of eight 7,500-gallon and two 10,000-gallon tanks inside of the new storage building. Two of the 7,500-gallon tanks contained waste solvents requiring air permits.

Operating permit 67-399-016 for the two waste solvent storage tanks was issued on September 17, 1991 and expired September 30, 1992. The operating permit was reissued on October 1, 1993, and was effective through September 30, 1998.

Most residual wastes entering the facility were containerized and containers were properly closed. All bulk loads entering or leaving the facility in rolloff containers or dump trailers would be properly tarped. In addition, all facility traffic would travel on either concrete or asphalt paved surfaces, preventing the creation of airborne dust from the use of soil or stone roads. All processing operations involving open containers of waste would be conducted indoors, and putrescible waste would not be managed at the facility (1998).



3) CCI

On February 18, 2005, PADEP re-issued SOOP 67-03046 for emissions from Waste Solvent Storage Tank No. 1 and Waste Solvent Storage Tank No. 2, each having storage capacity of 7,500 gallons and being equipped with nitrogen blanket systems. Sources of minor significance included four 7,500-gallon hazardous waste storage tanks, laboratory hoods, atomic absorption fume hood, storage of drums and RCRA empty containers, and tanker cleaning operations. The waste solvent tanks were previously the subject of operating permit 67-399-016. The permit expiration date was February 28, 2010.

PADEP conducted an annual re-inspection of the facility on January 17, 2006. No violations were noted. The inspection report noted the following: solvents were pumped from tanks/totes (mainly solvent paint products) to the waste solvent tanks located in the southwest corner of the building. The solvents were then pumped from the storage tanks to truck tankers and sent offsite for kiln fuel. Each load going to a nonhazardous waste combustion unit was tested for chloride. Tank sludge was sent offsite for incineration. A smaller (220-gallon) nitrogen tank was installed to replace the larger white tank.

PADEP conducted a full compliance inspection at the facility on March 12, 2009. No violations were noted. It was noted that drums containing paint solvent waste that had a high viscosity and could not be pumped were emptied into the KilnDirect Box. The drums were mechanically raised and emptied into the container where the paint was stirred to the point that it could be pumped into tanker trucks for shipment. The unit was installed after the inspectors last inspection; however, the inspector stated that it did not appear that a plan approval application was required.

CCI submitted the renewal application for emissions from the two waste solvent tanks covered under SOOP 67-03046 on August 24, 2009. The application listed CCI as the applicant, Witte-Chase Environmental Resources as the parent company, and Clean Venture, Inc. (located at the 550 Industrial Drive address) as a sister company. A PADEP internal memorandum dated July 13, 2010 recommended distribution of the draft permit for comments. Issuance of the final permit with all requirements from the previous permit was recommended on October 1, 2010.

On September 10, 2009, RTES submitted a request for determination (RFD) for a 7,200-gallon sealed rolloff style double-walled container to process approximately 20,000 gallons of spent solvents consisting of 5% F001 and F002 wastes and 95% F003 and F005 wastes per week. The majority of the contents would be pumped out of drums; the remaining contents would be poured directly into the container. On November 4, 2009, PADEP processed the RFD stating that plan approval was not required.

SOOP 67-03046 was re-issued on October 1, 2010 and is effective through October 1, 2015. The permit includes the same sources, conditions, and minor sources (except the Sumter KilnDirect Transport System that was added and the atomic absorption fume hood that was deleted) as the previous permit.

PADEP conducted full compliance inspections at the facility on January 31, 2012 and October 1, 2014. No violations were noted. On August, 4, 2014 PADEP conducted a permit renewal inspection and no violations were noted.

d. **National Pollutant Discharge Elimination System (NPDES) Permits, NOVs and Inspections**

1) **IWR**

No NPDES permitting was conducted during IWR's ownership.

2) **REMTECH**

The *September 1993 Final RFA Report* indicated that REMTECH submitted the initial application for an NPDES permit (stormwater discharge from the parking lot) on February 2, 1990.

On November 3, 1994, PADEP granted REMTECH permission to discharge only stormwater from the facility based on verbal confirmation and information in a general permit application for stormwater, both sources verifying that the stormwater did not come in contact with any industrial activities conducted at the facility. PADEP later received sample information that confirmed that the stormwater did come in contact with industrial activity. Therefore, PADEP required REMTECH to apply for an NPDES permit; continue working with PADEP's Waste Management Program to identify and eliminate all pollutant sources contaminating the stormwater; and obtain approval from PADEP's Water Management Program prior to any future discharges.

REMTECH informed PADEP of the proposed work for the stormwater retention pond liner system on November 18, 1994. The repairs included installing air vents in the liner and a sump pit below the liner to remove water under the liner. This proposed work was accepted by PADEP on December 9, 1994, with conditions. On December 20, 1994, REMTECH requested clarification from PADEP of these conditions, and noted that repair work for the pond liner was scheduled to begin in December 1994. PADEP responded with clarification on February 23, 1995.

REMTECH provided PADEP with updates regarding the repairs to the pond liner system and revisions to their NPDES permit application, and requested permission to discharge accumulated stormwater within the pond and groundwater from beneath the pond on October 2 and October 3, 1995. On November 27, 1995, REMTECH notified PADEP that the pond liner repairs were completed and again requested permission to discharge stormwater from the pond.

On January 4, 1996, REMTECH submitted the Stormwater Retention Pond Liner Repair Project report prepared by RTES. It discussed repairs to the damaged areas of the liner and collection of two soil samples that were composited (with exception of samples for VOC analysis) from beneath the liner. The analytical results for VOCs, SVOCs, pesticides, PCBs, herbicides, and metals were included in the report.

Pennsylvania Bulletin notices indicate that the initial NPDES permit PA0084107 was issued to REMTECH in 1997 for new discharge of treated industrial waste via Outfall 001 to an unnamed tributary to Fishing Creek. Renewal and/or amended permits were issued to REMTECH in 1998 and to CCI in 1999. (Note: eFACTS also lists permit number PA0084170 issued to CCI; however discussions with a PADEP Clean Water Program representative revealed that ID # PA0084170 was incorrect, and that the NPDES Permit issued was ID # PA0084107.)

All residual waste management operations conducted at the facility, including storage and

processing, were conducted within the secondary containment system on an impermeable concrete pad. Secondary containment was provided for residual waste storage and processing areas to control any potential spills of liquid waste, and the stormwater management system directs all flow from the outdoor yard area through the site stormwater basin and a series of valves. This allowed any spilled material which may be spilled outdoors to be trapped prior to exiting the site stormwater basin. No disposal or land treatment activities are proposed to take place at the facility (1998).

### 3) CCI

On June 10, 2003, CCI notified PADEP that a lawnmower had run into the stormwater retention pond tearing the liner. The pond contents were pumped out to expose the tear, and the liner was repaired.

On July 9, 2003, CCI's NPDES permit PA0084107 to discharge stormwater associated with industrial activity via Outfall 001 to an unnamed tributary of Fishing Creek was issued, after PADEP's review and approval on April 1, 2003. The permit was effective August 1, 2003 through August 1, 2008.

PADEP received a Notice of Intent to File Civil Action under the Clean Streams Law and the HSCA Act 108 from counsel for the owner of the property directly adjacent to (east of) the CCI facility. The notice indicated that CCI was discharging the stormwater retention pond effluent to flat, dry land on the adjacent property rather than the unnamed tributary identified in the NPDES permit. PADEP responded on November 23, 2005 that they would conduct an inspection on December 1, 2005. No violations were noted during this inspection. PADEP received the complaint from the property owner on October 4, 2005.

On May 25, 2007, CCI faxed the analytical results for effluent samples from Outfall 001 collected by both CCI and PADEP on December 1, 2005, March 10, 2006, and March 27, 2007.

A Pennsylvania Bulletin notice indicated that CCI's NPDES permit was renewed in 2008.

PADEP issued an NOV to CCI on April 5, 2010 citing that the stormwater retention pond was not properly maintained. The liner was floating near the south end displacing water in the pond. During the April 1, 2010 compliance inspection, it was noted that the oil booms adjacent to three stormwater inlets on the west side of the containment area were saturated and ineffective and the stormwater retention pond liner was floating near the south end of the pond. PADEP reviewed a report of the problem by RTES dated April 29, 2010 and agreed with the recommendation to repair the problem. CCI requested an extension for the repairs on June 24, 2010 if approved by PADEP the same day. The follow-up inspection conducted on October 18, 2010 indicated that these issues had been corrected. The analytical results for samples of the discharge from Outfall 001 or the pond water collected by PADEP were included with the inspection reports.

RTES submitted Annual Stormwater Management System Inspections to PADEP on November 16, 2011 and November 15, 2012. It stated that no corrective measures were required to be implemented and the venting system installed below the lined stormwater retention pond in 2010 was functioning properly. There was no evidence of any releases

nor leaking from drums and/or containers located on site.

CCI notified PADEP of emergency discharges of the stormwater in the stormwater retention pond due to heavy rainfall on September 16, 1999, August 2, 2004, October 14, 2005, and September 13, 2011.

Several NPDES routine/complete or compliance inspections were documented for the facility. Inspections during which no violations were noted occurred on December 1, 2005, October 31, 2007, June 10, 2009, October 17, 2012, and March 31, 2014.

The CCI 550 Industrial Drive permit (permit no. PA0084107) was last reissued on October 17, 2014. Monthly stormwater monitoring at Outfall 001 is conducted. This is the only location discharging stormwater drained from the CCI site.

#### **4. Consent Order and Agreements/Consent Assessment of Civil Penalties**

##### **a. Consent Order and Agreement (COA) – January 26, 1989**

The COA dated January 26, 1989 between IWR and PADEP resulted from violations observed during an inspection conducted by PADEP on October 20, 1988, which were communicated to IWR in the NOV dated November 3, 1988. The violations included:

- 1) A container storage area on the northwest corner of the facility had inadequate containment capability and structural integrity. The area was constructed of a gravel base and did not have a stormwater/spill collection system in place.
- 2) The facility's hazardous waste storage area lacked a containment system for spills, run-on, and run-off, its use for hazardous waste storage would be in violation of the regulations.

PADEP recognized that REMTECH purchased IWR. The violations occurred under IWR's ownership, but REMTECH agreed to correct them. Therefore, to the extent the COA was complied with, the violations would not become part of REMTECH's compliance history. IWR was required to submit plans to PADEP for the design of the improved indoor and outdoor storage areas and the improved storm drainage system referenced in their November 18, 1988 submittal. Construction of the improvements was required to be completed within 270 days of PADEP's approval of the plans and specifications. By 1990, REMTECH had brought all hazardous waste storage indoors into the 7,000-square-foot explosion-proofed, secondarily-contained building and covered the outside area in sealed-jointed, diked concrete that is sloped to the HDPE-lined stormwater retention pond for added spill containment. No construction was performed until area sampling/analyses confirmed no environmental pollution or the necessity for minor remediation. The modifications were certified by REMTECH and an independent professional engineering firm. PADEP granted approval in mid-1990 to resume full operations using the new storage building.

##### **b. CACP – March 14, 1991**

This CACP between PADEP and REMTECH was issued for violations noted during PADEP inspections conducted on June 12 and 14, 1990 for which an NOV was subsequently issued on August 9, 1990 and for violations noted during a PADEP inspection conducted on August 1, 1990 for which an NOV was subsequently issued on August 28, 1990. The violations included inadequate aisle spacing for ignitable hazardous wastes, storing hazardous wastes

with other incompatible wastes, omissions from the contingency plan, and storage of hazardous wastes for greater than one year. The facility responded to the NOV and commented on the provisions of the CACP. A penalty was assessed and paid by REMTECH on March 7, 1991.

**c. CACP – April 24, 1991**

On January 24, 1991, as a result of a records review, PADEP issued an NOV to REMTECH for failure to provide continued quarterly sampling of private water supplies for all residents within a 2,500-foot radius who had requested the service during several quarters in 1989 and 1990. REMTECH responded on February 15 and March 1, 1991. A penalty was assessed and paid by REMTECH on April 23, 1991.

**d. CACP – January 28, 1992**

This CACP between REMTECH and PADEP was issued as a result of the facility utilizing the exterior spill containment pad as a hazardous waste storage area for a rolloff containing solid hazardous wastes (F002/F003/F005) and two tankers containing liquid hazardous wastes (D001/D018/F003/F003/F005) from November 20, 1990 to January 15, 1991. A penalty was assessed.

**e. CACP – April 27, 1993**

During an inspection on November 17, 1992, PADEP noted violations for REMTECH as follows: aisle spacing, inaccurate labeling, incomplete inspection records. PADEP also noted an area of stained grass near the curb on the west side of the facility. PADEP recommended thoroughly cleaning the drain to lessen chance of future overflows. The facility responded on November 23, 1992. An NOV was issued on January 4, 1993; Facility responded on January 29, 1993.

**f. CACP – September 24, 1993 and March 7, 1994**

These CACPs between PADEP and REMTECH were issued for multiple manifest violations that occurred throughout 1992 and 1993. A penalty was assessed.

**g. COA – March 1, 1995**

This COA between PADEP and REMTECH was issued for violations observed during inspections conducted by PADEP on February 10, May 5, May 17, and August 24, 1994 as well as a review of hazardous waste manifests for the facility. An NOV was issued for the February 10 inspection on March 29, 1994. A compliance order was issued by PADEP on May 19, 1994 and an NOV was issued on June 22, 1994 for the May 5 and 14, 1994 inspections. An NOV was issued on September 22, 1994 for the August 24, 1994 inspection. The violations included storage of residual and hazardous waste for greater than one year, open and leaking drums of hazardous waste, inadequate aisle spacing and improper stacking height of hazardous waste drums, drums lacking labels or torn/illegible labels, failure to conduct tank thickness testing, failure to document inspections of the reactive storage shed, incorrect manifests, acceptance and storage of municipal waste, failure to separate incompatible wastes, and failure to complete daily inspection logs. A penalty was assessed and paid by REMTECH in installments.

**h. CACP – January 29, 1996**

During a PADEP inspection of the REMTECH facility on August 9, 1995 a violation was documented regarding one container of HW being stored in excess of one year. An NOV was issued on September 11, 1995 (container only).

**i. CACP – June 12, 1997**

This CACP between REMTECH and PADEP for manifest violations resulted from uniform hazardous waste manifest reviews conducted by PADEP on January 22 and March 21, 1997 and described in the April 7, 1997 NOV. REMTECH was issued and agreed to pay a penalty for the violations.

**j. CACP – November 6, 1997**

During site inspections on March 28, 1997, July 15, 1997, July 18, 1997, July 31, 1997, and September 2, 1997 violations included: labeling; stacking requirements; signage; and manifests. Facility responses - various in 1997; NOV – April 17, 1997 and August 28, 1997. Penalty assessed/collected \$3,500.

**k. CACP – January 21, 1998**

Violations documented at the REMTECH facility included: Inaccurate/inadequate/missing labels, improperly stored drum. Inspection report September 23, 1997; NOV October 27, 1997; Facility response November 17, 1997; DEP notes for compliance conference November 24, 1997; Facility response to settlement offer November 26, 1997; DEP accepts settlement offer December 10, 1997; DEP draft CACP (cover letter) December 11, 1997; Facility response with proposed revised language December 23, 1997 (unsigned CACP included); CACP January 2, 1998 (PADEP accepts proposed language changes); Facility acceptance of CACP January 5, 1998; Final CACP January 21, 1998; Penalty assessed \$3,000

**l. CACP – April 29, 1999**

During an Administrative review at the REMTECH facility on November 4, 1998, the REMTECH facility received a violation due to shipments not complying with US and PA DOT requirements. A penalty was assessed/collected for \$1,000.

**m. CACP – July 7, 1999**

During an inspection of the REMTECH facility on March 31, 1999, containers of hazardous waste were found not labeled to accurately identify contents. A violation was issued for inaccurate/inadequate/missing labels. An NOV was issued on May 5, 1999 and the Facility responded on May 5, 1999 and May 13, 1999. PADEP's discussion of settlement offer (no detailed information) was on May 14, 1999. This CACP included another violation that had been noted during a site inspection on October 9, 1998 as follows: immediate remedial action not taken where a hazard was imminent or had already occurred. An NOV was issued for this violation on November 13, 1998 and the Facility responded on December 2, 1998. PADEP responded to the Facility on December 18, 1998. The Facility requested a meeting on December 24, 1998. A CACP was documented on May 3, 1999 and the Facility responded on May 13, 1999. DEP Discussion of settlement offer (no detailed information) was made on May 14, 1999 and a CACP was finalized on July 7, 1999 (revised to include May 5, 1999 labeling violation and reduced penalty).

**n. CACP – October 10, 2000**

During several PADEP Administrative File Reviews at the CCI facility on May 16, 2000, June 9, 2000, June 14, 2000 violations included: 52 manifest violations; and unapproved manifest accepted. During an Administrative File Review on June 22, 2000 – Violations included: shipment of waste to disposal site with PCB above acceptable concentrations (offsite) and on February 29, 2000, CCI shipped RW to Modern Landfill with PCB concentration above the limit allowed by Modern for acceptance of this type of waste.

Modern accepted and disposed of the PCB waste. A penalty was assessed/collected for \$10,500.

**o. CACP – January 16, 2001**

During an Administrative file review at the CCI facility on August 8, 2000 it was noted that Biennial reports had not been submitted to DEP. An Administrative file review on November 4, 2000 noted a violation pertaining to burning hazardous waste without a permit. On December 6, 2000 a violation was noted due to manifest issues. An NOV was issued for all violations on November 6, 2000. A penalty was assessed/collected for \$8,000.

**p. CACP – March 19, 2001**

This CACP between CCI and PADEP was associated with a violation identified during a manifest review. PADEP issued an NOV on January 24, 2001, CCI responded with corrections on January 26, 2001. A penalty was assessed and paid by CCI.

**q. CACP – December 30, 2003**

The following violations were documented at the CCI facility. A penalty was assessed/collected for \$41,000:

- 1) Inspection October 7, 2002; NOV October 16, 2002: Containers of hazardous waste not in good condition; adequate aisle space not maintained to allow unobstructed movement of personnel and equipment during emergencies; handles solid waste contrary to rules and regulations or orders of the Department, or any permit condition in any manner as to create a public nuisance.
- 2) Inspection September 17, 2003; NOV September 18, 2003; NOV August 26, 2003; leaking container, waste container stored outside permitted storage area on exposed ground, RW drums lacking secondary containment, missing label, open HW drum, storage of HW greater than one (1) year.

**r. CACP – December 2, 2004**

The CCI facility self-reported that they had mishandled hazardous wastes on May 22, 2004. This included improper coding; and subsequent processing of HW as RW in the RW building bunkers. The wastes were segregated and taken offsite for disposal. As a result of a PADEP inspection on June 7, 2004, an NOV was issued on June 7, 2004. REMTECH responded to the NOV on June 16, 2004. A penalty was assessed/collected for \$6,000.

**s. CACP – July 5, 2005**

PADEP complaint inspection on January 4, 2005 at the CCI facility, noted that an exothermic reaction occurred when outdated sodium hydroxide pellets were added to the residual waste mixing pit that contained some water/fluid. The wastes were being solidified with sawdust. Release of a large quantity of water vapor to the atmosphere occurred via the open doors. Vapor was traveling vertically upward before being dispersed by the wind. Mixing pit and several rolloffs in the building containing this material were flooded with water. Leachate was collected and handled appropriately. Emergency crews were dispatched to the facility. The NOV issued on January 17, 2005 included a violation pertaining to safety hazards, odors, dust, noise and other public nuisances are not controlled. A penalty was assessed/collected for \$4,000.

**t. CACP – June 7, 2007**

CCI facility incident report dated November 21, 2006 documented an in-drum reaction of

bromine tablets with organic/oxidizer (suspected) on drum lid. A small fire was contained in drum and a large vapor/smoke cloud emitted and migrated approximately 0.5 miles to I-83. A violation was documented for improper management of hazardous waste and special requirements for incompatible wastes not being met. An NOV was issued on November 29, 2006 for the violations. A penalty was assessed/collected for \$20,000.

**u. CACP – October 25, 2010**

Several violations identified in 2009 were included in this CACP and a penalty was assessed at \$131,500. It was documented that CCI had violated Act 97, Department regulations, order, and/or terms of permit via failure to treat, store and dispose hazardous waste in accordance with rules, regulations, permits, permit conditions and orders of the Department; unlawful transfer of hazardous waste; improper management of hazardous waste; person or municipality operates a facility without a permit; inability to locate hazardous waste by use of written record; failing to label hazardous waste; not taking immediate necessary corrective actions to investigate and remediate the possible failure of the residual waste processing pits once liquids were observed in the secondary containment structure.

- 1) On June 17, 2009 an explosion and subsequent fire occurred in Pit #3 of the nonhazardous waste building at the CCI facility. On August 26, 2009, PADEP was notified of the incident 75 days after the explosion and fire.
- 2) On August 3, 2009, CCI combined fluorescent light bulbs (residual waste) and waste paint (hazardous waste) in a residual waste processing pit for the purpose of disposing of all waste in a residual waste landfill rather than disposing the hazardous waste at a permitted facility.
- 3) Based on information obtained during a September 2, 2009 meeting, the Department was made aware of the fact that three cubic yards of hazardous waste were illegally processed and placed into a dump trailer and that this trailer was taken to the Cumberland County Landfill for disposal.
- 4) Based on information obtained during a phone call on December 2, 2009, CCI informed PADEP that on November 20, 2009, hazardous waste had again been mixed with residual waste and on November 24, 2009 that waste was sent to a residual waste landfill.
- 5) On August 26, 2009, during a PADEP site inspection, CCI was unable to physically locate a container of hazardous waste with the ID #. The container was shown in CCI records as being at the facility at the time of inspection.
- 6) On September 23, 2009, during PADEP's inspection it was noted that at least "one drum located nearest to the truck that was being unloaded lacked a hazardous waste sticker." In addition, four (4) seven-gallon containers of waste paint were received on 6/16/2009. Two of these containers were on record as being located in "Row CRI"; however it became clear that "Row CRI" did not exist within the facility.
- 7) During PADEP's September 23, 2009 site inspection a review of daily and weekly inspection checklists indicated that the level of liquid in the secondary containment for the residual waste disposal pits had been one inch since the beginning of the calendar year. Liquid was measured to be approximately 12 inches in each of the three mixing pit monitoring ports despite the weekly records maintained by CCI indicating at last monitoring the liquid level was only one inch. A subsequent review of the weekly



monitoring records revealed that liquid was observed in the secondary containment structure each week since June 29, 2007.

**v. CACP – January 11, 2012**

The following violations were included in this CACP and a penalty was assessed/collected for \$1,426.

- 1) During the site inspection on August 15, 2011, PADEP noted that CCI had failed to submit an annual report for 2009 and 2010 by the June 30<sup>th</sup> deadlines. An NOV was issued on August 18, 2011.
- 2) As a result of a Unilateral Permit Modification (UPM) issued by the Department on April 26, 2011, CCI was to submit 30, 60 and 90 day liquid level reports pertaining to the reopening of the mixing pits and to also submit analytical data of any recoverable liquids from the witness zones. An NOV was issued on September 12, 2011 for failing to meet terms of the UPM.

**w. CACP – November 16, 2012**

Multiple shipments of TCE from Osram Sylvania Inc. (Osram) were accepted by CCI between 2010 and 2012. CCI believed these wastes to be exempt under 40 CFR 261.4(a)(8) and 261.4(a)(24), reclassified the wastes from hazardous to nonhazardous, and stored them in the residual waste storage area outside of the permitted hazardous waste storage area. PADEP indicated that these exemptions did not apply to this waste. During this period, CCI also transported and accepted wastes from Osram that did not have proper waste codes on the manifests. A penalty of \$10,857 was assessed and paid by CCI.

**B. Description of all SWMUs, AOCs, and other Miscellaneous Areas**

A total of twenty-four (24) SWMUs and four (4) AOCs (noted below and also in Attachment A) were identified in the September 27, 1993 Final RCRA Facility Assessment (RFA) by AT Kearney (ATK). Twenty (20) SWMUs and three (3) AOCs were identified at the 550 Industrial Drive facility. Four (4) SWMUs and one (1) AOC were identified at the 560 Industrial Drive facility (Keller Building). The August 2014 EI inspections were conducted to evaluate the current conditions of the SWMUs and AOCs identified in 1992/1993 by ATK and those identified during review of regulatory files for the facility as noted below (Appendix B: Figure 9, Figure 10, Figure 13, and Figure 14). Additional investigative information for some of these areas/units is included below in *Section B.7 - Investigations and Remedial Actions to Date*.

**1. SWMUs and/or AOCs - 550 Industrial Drive Property:**

SWMU and AOC documentation from the *September 1993 Final RFA Report* (1993 RFA) is inserted below in addition to the current status documented during the August 22, 2014 EI Inspection of the 550 Industrial Drive property.

**a. AOC A - Former USTs**

**1) 1993 RFA:**

The *September 1993 Final RFA Report* described this area as being located in the southeastern portion of the 550 Industrial Drive REMTECH facility, adjacent to the Former Mounded Tanks (SWMU 18) as noted on Appendix B: Figure 9. The area consisted of three 10,000-gallon steel tanks used for storage of product gasoline, diesel fuel, and No. 2 fuel oil. The exact date of their installation, sometime on or after the 1979 construction of the facility, was unknown; however, the USTs were removed in

May 1989. Tanks were reportedly inspected for holes or signs of leakage, but no evidence of release was observed.

Startup Date – 1979

Closure Date – May 1989

Wastes Managed – None – used for product storage.

Releases/Investigations/Remedial Activities – Soil samples were taken before and during the removal of the three USTs and there was no evidence of leakage. Samples taken for field analysis with an HNu photoionization meter, reportedly exhibited background levels. Composite soil samples were also taken from the excavations. Laboratory data reportedly revealed no soil contamination, so the excavations were backfilled. No analytical results were found in the available file material to confirm or deny these reported findings.

Soil samples collected on April 22, 1986 collected from the truck parking area (West side of the garage) revealed elevated levels of lead (504 ppm) and oil and grease (6,264 ppm); however, these samples reportedly did not exceed EP Toxicity levels for lead.

Recommendation – Confirmatory sampling of the soils surrounding and under the unit was suggested in the 1993 RFA.

**2) August 22, 2014 EI Inspection:**

During the EI Inspection, the former AOC A was documented as being completely paved over (SWMU 20) and/or built upon (HW and RW Buildings) as noted in the photographs (Appendix A) and as illustrated on several site maps/aerials (Appendix B: Figure 13 and Figure 14). At the present time, there are no concerns for this area.

**b. AOC B – Boiler UST**

**1) 1993 RFA:**

The *September 1993 Final RFA Report* described this UST as being located north of the office building at the REMTECH facility (Appendix B: Figure 9), consisting of a 10,000-gallon steel underground tank, used to store No. 2 fuel oil for the facility boiler used for heating. The unit was situated beneath an asphalt parking lot. No integrity assessment was performed on the unit. Facility representatives were unable to provide any additional information on this unit.

Startup Date – 1980

Closure Date – February/May 1993

Wastes Managed – None - Tank #7 was used for storage of No. 2 fuel oil for building heat.

Releases/Investigations/Remedial Activities – Tank #7 was original to the IWR facility. It was located on the north side of the building along Industrial Drive. The UST was removed on February 24, 1993. Contaminated soil was removed at the fill areas. Post-excavation soil sampling results for benzene, toluene, ethylbenzene (BTEX) and total

petroleum hydrocarbons (TPH) were non-detect. PADEP accepted the closure report on May 5, 1993.

Recommendation – Integrity testing of the UST was recommended as a result of the February 25, 1992 VSI. If the unit failed the integrity test, sampling of the soils surrounding the UST was suggested in the 1993 RFA.

**2) August 22, 2014 EI Inspection:**

According to older maps (Appendix B: Figure 3, Figure 7, and Figure 12), it appears that the AOC B (Tank #7) may have been located more to the east than the AOC B location noted on the 1993 RFA map (Appendix B: Figure 9). This tank was removed in 1993. At the present time, no further action is recommended for this area. Sample results for closure sampling are included below in *Section B.7 - Investigations and Remedial Actions to Date*.

**c. AOC C – Back Lot**

**1) 1993 RFA:**

The *September 1993 Final RFA Report* described this area as being located in the southern portion of the property (Appendix B: Figure 9), south of the Outdoor Concrete Containment Area (SWMU 20), consisting of an unlined area used for storage of scrap metal and discarded equipment. Dimensions of the unit were unreported. Based upon a 1986 aerial photograph reviewed during the 1992 VSI, this area may have also been used for storage of drums. Facility representatives were unaware of any use of this area by IWR. At the time of the VSI, a tank utilized for safety training exercises, as well as some scrap metal, were observed at the unit. No release controls were associated with this unit.

Startup Date – It is believed this area had been available for use beginning in 1979. Old equipment and a safety training tank were placed at the unit by Remtech after 1989.

Closure Date – Unknown

Wastes Managed – Scrap metal and discarded equipment. Historically, unknown drummed waste may have been managed in this area.

Releases/Investigations/Remedial Activities – Soil samples were taken southwest of the former Stormwater Detention Pond (SWMU 2) on January 17, 1986. Analyses of the composite sample revealed levels of oil and grease at 12,300 mg/kg and lead levels of 46 mg/kg.

Recommendation – Confirmatory sampling of the shallow subsurface soils throughout the unit was suggested.

**2) August 22, 2014 EI Inspection:**

A portion of the original AOC C parcel was sold to FedEx in 2002. As noted on the site aerial photos (Appendix B: Figure 17) FedEx uses a portion of the area for truck parking. CCI uses another portion of the area for the existing Stormwater Retention Pond (SWMU 1), which was built in 1990 over the area where the January 17, 1986 soil samples, noted above, had been collected. As a result, the soils containing elevated concentrations of oil, grease and lead in 1986 were presumably excavated in 1990, in advance of the installation of the existing Stormwater Retention Pond (SWMU 1)

(Appendix B: Figure 9, Figure 12, Figure 13, and Figure 14). Therefore at the present time, no further action is recommended for this area of concern.

**d. SWMU 1 - Existing Stormwater Retention Pond**

**1) 1993 RFA:**

The *September 1993 Final RFA Report* described the existing Stormwater Retention Pond as being located along the southern fence line (Appendix B: Figure 9) and has a 500,000-gallon capacity, 60 millimeter thick high-density polyethylene (HDPE) geomembrane liner, and an associated oil/water separator. It is equipped with two isolation valves. Liquids are discharged to an unnamed drainage ditch along the southeastern facility border.

Startup Date – August 1990

Closure Date – The unit was still in operation during the VSI.

Wastes Managed – Potentially contaminated stormwater collected by the outdoor containment area (SWMU 20) that contains (hazardous/residual) waste spillage from SWMUs 11, 12, 13, 14, 15, 16, and 19.

Releases/Investigations/Remedial Activities – Accumulated liquids were tested prior to discharge; if hazardous constituents were detected, liquids were pumped out by a vacuum truck and placed into one of the Hazardous Waste Storage Tanks (SWMU 6); oil collected in the oil/water separator was pumped into drums and shipped offsite for disposal. With the exception of one instance (August 1990 when approximately 100 gallons of spilled D008 waste liquid was discharged to the pond), it was never necessary to remove contaminated water from the pond.

No evidence of release were documented or observed during the VSI. Algae and an oily sheen were observed on the surface of the water in the unit during the VSI. In August 1990, approximately 200 gallons of spilled D008 waste liquid was discharged to the pond, which was reportedly removed and none was released to the pond.

Recommendation – No further action was suggested.

**2) August 22, 2014 EI Inspection:**

The *September 1993 Final RFA Report* site map (Appendix B: Figure 9) documents the existing Stormwater Retention Pond (SWMU-1) in the same location as the former pond (SWMU-2). It should be noted however that the existing pond (SWMU-1) is actually located south of the former pond (SWMU-2), as noted in Appendix B: Figure 13, and Figure 14 and as outlined in blue on Appendix B: Figure 9. No problems were noted during the August 22, 2014 EI inspection. At the present time, there are no concerns for this area.

**e. SWMU 2 – Former Stormwater Retention Pond**

**1) 1993 RFA:**

The *September 1993 Final RFA Report* described the former 500,000-gallon unlined Stormwater Retention Pond as being located along the southern fence line and received drainage from around and under the Former Mounded Tanks (SWMU 18) via a six inch PVC pipe, see Appendix B: Figure 9. This former pond also received liquids discharged

from the Storage Area C Trenches (SWMU 8) and the Grease Trap (SWMU 17), see Appendix B: Figure 12. Discharge was through an unlined drainage swale along the southeastern corner over an open field to a small wetlands area discharging to an intermittent stream that ran along the eastern property border. No release controls present.

Startup Date – 1979

Closure Date – 1989

Wastes Managed – The drainage from the area of the Former Mounded Tanks (SWMU 18) may have contained industrial wastewaters, gasoline sludges, spent ignitable solvents, petroleum refining wastes, dirty light #2 oil, and dirty heavy #5 and #6 oils. The pond also managed liquids discharged from the Storage Area C Trenches (SWMU 8), the Grease Trap (SWMU 17), and surface drainage from the exterior of the property. The unit was visually inspected for any indication of oil or contamination prior to discharge.

Releases/Investigations/Remedial Activities – PADEP inspection dated June 27, 1984 indicated accumulated sediment needing to be removed and the facility could not provide documentation that this was completed. Also, the unit was taken out of service in 1989. Testing and excavation/regrading activities were conducted in association with the decommissioning of the unit in 1989. Details on these activities were requested from the facility by ATK, but no additional information was received. Background soil samples were collected from several locations throughout the property in January and May 1986 (see *Section B.7 - Investigations and Remedial Actions to Date*). Elevated levels of lead were detected, but the concentrations did not exceed EP Toxicity levels.

Recommendation – The facility reportedly conducted remedial activities when the unit was decommissioned. It was suggested that the facility provide documentation that all contamination was removed by this remediation. If such documentation could not be provided, a RCRA facility investigation was suggested for this unit.

**2) August 22, 2014 EI Inspection:**

The Former Stormwater Retention Pond (SWMU 2) area has been paved/built over via the Outdoor Containment Area (SWMU 20) and the southern end of the RW Building, see Appendix B: Figure 13 and Figure 14). Limited sampling has been done in this area as noted in *Section B.7 - Investigations and Remedial Actions to Date*). At the present time, there are no concerns for this area.

**f. SWMU 3 - Unlined Container Storage Area**

**1) 1993 RFA:**

The *September 1993 Final RFA Report* described the two gravel-lined areas of unknown dimensions as being located outside in the northwest and northeast corners of the property (Appendix B: Figure 9). These areas were utilized for the storage of solid and hazardous wastes in rolloff containers. Wastes reportedly solidified in the rolloffs using lime, cement kiln dust, and other inert materials prior to offsite disposal at a sanitary landfill. No release controls were present.

Startup Date – August 1979

Closure Date – 1989

Wastes Managed – Both hazardous and nonhazardous industrial wastes, rinsewaters from cleaning of transportation vehicles, and sludges containing heavy metals and API separator sludge from cleaning of IWR's vacuum tankers and trucks may have been managed in this area.

Releases/Investigations/Remedial Activities – PADEP inspection dated June 27, 1984, a ram for a rolloff that contained a white powdery substance and black oily material was observed sitting on the ground near the scrap yard on the northwest portion of facility. On July 23, 1986, a spill of hydrochloric acid occurred in a 100 square foot area covered by crushed limestone. Soil was excavated, treated with lime/sodium bicarbonate and then placed back in the excavation with additional lime. PADEP provided verbal approval for the in-situ treatment.

Recommendation – Confirmatory sampling of the soils underlying the unit was suggested.

**2) August 22, 2014 EI Inspection:**

The two former gravel-lined areas have been paved/built over via the Outdoor Containment Area (SWMU 20) in the northwest corner and the Residual Waste Building in the northeast corner (Appendix B: Figure 6). It does not appear that soil sampling was ever conducted in these areas; however at the present time, there are no concerns.

**g. SWMU 4 - New Hazardous Waste Storage Area**

**1) 1993 RFA:**

The *September 1993 Final RFA Report* described this area as being located south of Storage Area C (SWMU 7) inside the new expansion building (Appendix B: Figure 9), used for the storage of ignitable and non-ignitable hazardous wastes in drums transferred from storage Area C via forklifts after the identity of the wastes have been verified by laboratory analyses. The unit is indoors and underlain by epoxy-coated concrete flooring, isolated concrete trenches covered with a steel grating (SWMU 5) collect spillage. The unit is divided into two drum storage areas: Storage Area A (11,440 gallon capacity) in which ignitable materials are stored, and Storage Area B (44,500 gallon capacity) in which non-ignitable wastes are stored. Wastes are accumulated until sufficient quantities have been collected for economical shipment to an offsite TSD. Spillage collected in the containment trenches would be pumped out and drummed.

Startup Date – May 1991

Closure Date – The unit was still in operation during the VSI.

Wastes Managed – Ignitable and non-ignitable hazardous wastes as shown in the facility permit were managed in this area.

Releases/Investigations/Remedial Activities – No evidence of releases documented or observed during VSI.

Recommendation – No further action was suggested.

2) **August 22, 2014 EI Inspection:**

No problems were noted during the EI inspection. This area includes warehouse storage for Permitted Areas F/M/A, E1/E2 (ASTs), and E4 (Kiln Direct Mixing Box) as noted on Appendix B: Figure 5 of the EI Inspection Report. The drums appeared to be closed and labelled. There were no apparent wet spots seen during inspection. The PCB storage area, which sits at the end of Row M, did not house any PCBs. Note: Long term storage of PCB wastes are not accepted; however when present, PCB wastes are stored for no more than 30 days before being transported to another location that can manage the waste. The facility was doing lab packing during the inspection. No further action was suggested.

h. **SWMU 5 - New Hazardous Waste Storage Area Trenches and Sumps**

1) **1993 RFA:**

Located indoors south of Storage Area C (SWMU 7), consists of two-foot deep concrete containment trenches surrounding the New Hazardous Waste Storage Tank (SWMU 6) and the Hazardous Waste Storage Area (SWMU 4). A concrete-lined sump (3 x 3 x 3 ft. or 27 ft<sup>3</sup>) covered with a steel grate is located in the center of the unit.

Liquid accumulated in the trenches or sump is pumped out, tested and either drummed or pumped into the appropriate hazardous waste storage tank.

Startup Date – August 1990

Closure Date – The unit was still in operation during the VSI.

Wastes Managed – Spillage from the New Hazardous Waste Tanks (SWMU 6) and the New Hazardous Waste Storage Area (SWMU 4).

Releases/Investigations/Remedial Activities – No evidence of releases documented or observed during VSI. At the time of the VSI, no liquids were observed in either the trenches or the sump and the unit appeared to be intact.

Recommendation – No further action was suggested.

2) **August 22, 2014 EI Inspection:**

No problems were documented for this area during the EI inspection. There were no apparent wet spots noted. There was no solution or debris seen in the secondary containment trenches of the tanks, and there were no visible unfilled cracks noted. No further action was suggested.

i. **SWMU 6 - Hazardous Waste Tanks and Secondary Containment**

1) **1993 RFA:**

The *September 1993 Final RFA Report* described this unit as being located indoors south of Storage Area C (SWMU 7), receiving chlorinated and non-chlorinated solvents, nonhazardous residual wastes, and oil/water mixtures from offsite generators Appendix B: Figure 9. Consists of six-vertical carbon steel tanks (7,500 gallons each), each with independent, aboveground piping. Tanks can be sampled from different heights via pipes alongside the tanks. Individual tanks are elevated on steel stilts, underlain by an epoxy coated-concrete floor. Two tanks are equipped with a nitrogen blanket. All tanks are equipped with audible overflow alarms. The unit is divided into two separate containment systems: Tank Storage Area A and Tank Storage Area B; each is equipped with two-foot

deep containment trenches and is surrounded by an 18-inch high concrete curb. Both containment systems measure 23-feet by 43-feet and are designed to contain a minimum of 19,500-gallons. The tanks can be filled or emptied through both indoor and outdoor couplings. The indoor couplings are considered part of this unit and are located within the secondary containment for this unit. They are also equipped with their own secondary containment. The outdoor couplings are considered part of the Loading/Unloading Areas (SWMU 19).

Tanks are emptied approximately once a week by vacuum tankers prior to shipment to an offsite TSD. The contents of Tanks #1 and #2 are sent to a cement kiln for disposal. Steel containment bins are situated underneath the coupling points for the tanks.

Startup Date – August 1990

Closure Date – The unit was still in operation during the VSI.

Wastes Managed – Ignitable and non-ignitable hazardous wastes and residual wastes as shown in the facility permit were managed in this area.

Releases/Investigations/Remedial Activities – No evidence of releases documented or observed during VSI.

Recommendation – No further action was suggested.

**2) August 22, 2014 EI Inspection:**

The current setup of this unit (Appendix B: Figure 5) is similar to how it was in 1993. The indoor ASTs were labelled. There was no solution or debris seen in the secondary containment trenches of the tanks, and there were no visible unfilled cracks noted. No further action was suggested.

**j. SWMU 7 - Storage Area C**

**1) 1993 RFA:**

The *September 1993 Final RFA Report* described this unit as being located inside and adjacent to the northern end of the main building, used as both a staging area for incoming wastes and storage area for compatible wastes. Previously used by IWR for vehicle maintenance and cleaning of spill response vehicles and equipment. The area consists of epoxy-coated concrete pad (60 x 60 feet) with permitted drum storage capacity of 31,130 gallons. Base of the unit slopes away from the center towards two isolated spill containment trenches (SWMU 8) located at the east and west doorways (installed in 1990). Incoming drums of wastes were sampled here for compatibility and to verify the manifest prior to transfer to the New Hazardous Waste Storage Area (SWMU 4) or pumped directly into one of the New Hazardous Waste Storage Tanks (SWMU 6). Storage Area C was upgraded to seal off the secondary containment trenches from piping that once transferred materials to the former stormwater retention pond (Appendix B: Figure 12). Liquids captured in the trenches would be pumped out and drummed.

Startup Date – 1979

Closure Date – The unit was still in operation during the VSI.



Wastes Managed – Manages hazardous and nonhazardous wastes as shown in the facility permit. Previously also managed rinsewaters generated from the cleaning of transportation vehicles, and sludges containing heavy metals and API separator sludge from cleaning of IWR's vacuum tankers and trucks.

Releases/Investigations/Remedial Activities – Heavy staining on the base of the unit was observed during the VSI. PADEP inspection dated June 27, 1984 observed a small drum, reportedly containing motor preserver, located next to the garage area was leaking onto the surrounding soil.

Recommendation – Confirmatory sampling of shallow subsurface soil was suggested in the vicinity of the leaking drum that was observed, during the VSI, releasing to the soil adjacent to the concrete pad.

**2) August 22, 2014 EI Inspection:**

This area includes warehouse storage Area H (Appendix B: Figure 5). The Department viewed the drums held in each area. They appeared to be closed and labelled. There was one drum of organic materials that had a wet area around the bottom. The facility checked the drum by pulling it out, and determined that it was the equipment located by the stairwell that was leaking water. There was a lab samples tote sitting outside of Building H, it was wrapped in plastic wrap and the facility explained that they were preparing to move it inside to the lab. No further action was suggested.

**k. SWMU 8 - Storage Area C Trenches**

**1) 1993 RFA:**

The *September 1993 Final RFA Report* described this unit as being located within Storage Area C (SWMU 7) and the trenches were used for collection and discharge of tanker cleanout wastes, rinsewaters from the cleaning of spill response equipment, and discarded engine oils and coolants from 1979 to 1988. After 1988, the unit was utilized for spill containment for Storage Area C. The units consist of two concrete-lined trenches measuring approximately 2 x 10 x 2.6 feet located along the eastern and western sides of Storage Area C. The trenches have a combined capacity of approximately 3,289-gallons. Until 1989, the units were equipped with iron pipelines which converged into a single pipeline at the southern end of the building. The pipelines discharged residue from the trenches to a concrete-lined Grease Trap (SWMU 17) located at the southern end of the facility property, see Appendix B: Figure 12 and Figure 13. Solids would generally be contained in the Grease Trap (SWMU 17) and liquids would be discharged to the Former Stormwater Discharge Basin (SWMU 2). Also operated as temporary sumps (i.e., materials deposited in the trenches would be pumped out later and transferred into either Tank #3 or Tank #8 which were two of the Former Mounded Tanks, SWMU 18, as documented in Appendix B: Figure 3 and Figure 7) .

The trenches were closed off and converted into blind sumps in 1989.

Startup Date – 1979

Closure Date – Blind trenches were still in use during the VSI.

Wastes Managed – During IWR's operation, the eastern trench reportedly received heels and residuals from the cleaning of spill response vehicles and equipment and the western trench primarily managed waste engine oils and coolants generated by vehicle

maintenance operations. Since 1988, spillage from wastes stored in Storage Area C were managed by this unit.

Releases/Investigations/Remedial Activities – No evidence of releases were documented or observed. The unit appeared to be intact with relatively little staining at the time of the VSI.

According to the *September 1993 Final RFA Report*, background composite samples were collected from several areas on the property in January 1986 from the following areas on IWR property: the outlet of the tank farm drainage system (associated with the former Mounded Tanks, SWMU 18), the outlet structure of the stormwater impoundment (the Former Stormwater Retention Pond, SWMU 2), and the drainage swale just east of the tank farm. An additional composite sample was taken from three points in a low area outside the facility. These samples were analyzed for volatile organics, pesticides, herbicides, arsenic, chromium, lead, and oil and grease. The volatile organics, pesticides/herbicides were non-detect. The heavy metal concentrations were within the typical range of metals in soils. Elevated oil/grease levels were detected ranging at 12,300 and 23,300 mg/kg.

Recommendation – No further action suggested.

2) **August 22, 2014 EI Inspection:**

The blind trenches were clear of solution and debris and no cracks were noted. No further action was suggested.

I. **SWMU 9 - Lab Waste Tank**

1) **1993 RFA:**

The *September 1993 Final RFA Report* described this unit as being located in Storage Area C (SWMU 7) as noted on Appendix B: Figure 9; however, during the VSI, the unit was located inside the office building, adjacent to the laboratory. The unit consisted of a 275-gallon aboveground steel tank, situated on a concrete base and used for the storage of wastewater received from the laboratory sink. No curbing was present. The unit received only rinsewaters generated from handwashing and the washing of laboratory glassware. No solvents are reportedly disposed of in the laboratory sink. The contents of the tank are pumped out and drummed prior to shipment to an offsite wastewater treatment facility, as needed.

Startup Date – 1989

Closure Date – The unit was still in operation during the VSI.

Wastes Managed – Manages wastewater collected from the laboratory sink.

Releases/Investigations/Remedial Activities – Flooring surrounding the unit was heavily stained during the VSI.

Recommendation – No further action suggested.

2) **August 22, 2014 EI Inspection:**

During the EI site inspection, a 275-gallon HDPE tote was located inside the NW corner of the HW Building ‘Old Storage Area C’ in close proximity of the laboratory (EI

Inspection Report Appendix B: Figure 6). Similar to 1993, the unit only receives rinsewaters generated from handwashing and the washing of laboratory glassware. No solvents are reportedly disposed of in the laboratory sink. No concerns were noted in this area.

**m. SWMU 10 - Laboratory Satellite Accumulation Areas**

**1) 1993 RFA:**

The *September 1993 Final RFA Report* described this unit as being located indoors at the north end of the office building (Appendix B: Figure 9). This unit consisted of three separate accumulation areas. The first area was located inside the laboratory underneath a fume hood and consisted of five 5-gallon amber glass bottles, labeled aqueous acid, aqueous base, oxidizer waste, ferrocyanide waste and organic waste. Approximately five gallons of each waste type were generated every three months, were consolidated with other compatible wastes and shipped to an offsite TSD for disposal. The second area was located inside the laboratory, adjacent to the hood and consisted of two 5-gallon steel buckets situated on a linoleum floor. The buckets received solid laboratory contaminated wastes such as pipettes, gloves, wipes and contaminated glass. Approximately one five-gallon bucket of glass and one 5-gallon bucket of contaminated gloves, wipes and rags were generated each month. The contents of both buckets were drummed and sent offsite for incineration. The third area for the laboratory was located indoors adjacent to the Laboratory Waste Tank (SWMU 9) and consisted of four 5-gallon polypropylene jugs situated on a concrete floor surrounded by absorbent booms. Labels on the jugs identified the contents as phenol wastes, QA acids, liquid oxidizers, and hazardous waste. Wastes were consolidated with other compatible wastes and shipped to an offsite TSD for disposal. The third area was taken out of service in mid-1992.

Startup Date – 1989

Closure Date – The unit was still in operation during the VSI.

Wastes Managed – Manages laboratory solvents, and solid laboratory contaminated wastes such as pipettes, rags, gloves, wipes, and contaminated glassware.

Releases/Investigations/Remedial Activities – No evidence of releases were documented or observed during the VSI.

Recommendation – No further action suggested.

**2) August 22, 2014 EI Inspection:**

The laboratory was neat and orderly during the EI inspection. Several fume/vent hoods were available for use when opening/testing/mixing samples of incoming waste. Closed buckets and bottles of wastes were in the process of being analyzed or had been analyzed for compatibility purposes. A closed approximately two gallon jug of PCB extraction waste was noted. One 55-gallon drum of waste marked "PCB samples" and one 55-gallon drum labelled "lab trash" were noted closed and labelled. The concrete floor was stained in several areas. No concerns were noted in this area during the EI inspection.

**n. SWMU 11 - Residual Waste Mixing Area**

**1) 1993 RFA:**

The *September 1993 Final RFA Report* described this unit as being located west of New Hazardous Waste Storage Area (SWMU 4) in the western portion of the property (Appendix B: Figure 9). Consisted of a modified rolloff container placed in an area of pavement within the Outdoor Containment Area (SWMU 20) and was used for solidification of nonhazardous (residual) waste. No separate secondary containment structure was present. Prior to 1990, the unit was underlain by an uncurbed asphalt pad. Definite dimensions were unknown; the size of the unit depended on the quantity of wastes stored. May have received wastes from the Residual Waste Drum Storage Area (SWMU 13), the Keller Drum Storage Area (SWMU 21), the Residual Waste Rolloffs/Trailers (SWMU 12), and the Exterior Residual Waste Rolloffs (SWMU 23). Drums of nonhazardous sludges and solids were emptied into 30 cubic yard rolloff containers and mixed with cement kiln dust, lime, or other bulking products using a clam shell mixer. The consolidated materials were then shipped offsite for landfilling.

Startup Date – 1989

Closure Date – The unit was still in operation during the VSI.

Wastes Managed – Managed nonhazardous sludges and solids.

Releases/Investigations/Remedial Activities – Rolloff mixing unit was stained but appeared intact during the VSI.

Recommendation – No further action suggested.

**2) August 22, 2014 EI Inspection:**

Residual wastes are no longer mixed in rolloffs in this area of the facility due to the PADEP approval of the construction/operation of the new residual waste processing/storage building in 2001. Residual wastes are now mixed with bulking agents inside the RW building processing area via three mixing pits (Bunkers) or periodically in rolloffs inside the RW building (Appendix B: Figure 5).

The leak detection zone beneath the 3 bunkers was found to be compromised in 2009 and as a result, four groundwater monitoring wells were installed to monitor the underlying groundwater in the vicinity of the facility operations. Monitoring of the liquids/leachate in the leak detection system is performed continuously via dataloggers installed in each of the 3 leak detection zone wells even though all three bunkers share the same leak detection zone. Quarterly leak detection zone reports are submitted to PADEP. The three bunker floors were reconstructed in 2011; however liquids continue to enter the shared detection zone. At least once per year, or more often if a 9" liquid level "baseline normal" is reached, the leak detection zone is pumped out and the contents sampled. In 2013, PADEP agreed to allow CCI to perform leak detection sampling only from the center pit well (PWC) in lieu of monitoring and sampling all three pit wells due to the PWC being centrally located, sharing the same detection zone, and documenting similar constituents during the first year of sampling. The analytical parameter list for the liquid/leachate samples is similar to the onsite groundwater monitoring wells (Table 4 of the *December 2013 Final GW Monitoring Plan*). Cycle Chem has the option to eliminate dissolved metal analyses for the leachate samples from the Pit Center Well (PWC) location.

Daily monitoring and documentation of the liquid levels in the pit wells will continue to be performed via the dataloggers. If an increase in liquid/leachate levels of 2" or more within a 14-day period is measured by any one datalogger, Cycle Chem will take action by shutting down the entire system since the leak detection zone is common to all three bunkers. Once shutdown, further evaluation will be conducted to determine the cause of the increasing liquid/leachate levels in the leak detection zone.

During the EI site inspection, all three bunkers were being used. The Department noted a gray solid with a gravel-like appearance lying outdoors and adjacent to the east wall of the RW building, next to Bunker 3. Bunker 3 contained the raw bulk mixing material, which at the time of the inspection was paper product and mulch. CCI explained that there were boards lining the building wall to protect against this event; however, overall the wall required repair. CCI employees were noted sweeping up the outside area during the inspection. Bunkers 1 and 2 were being used for mixing again. The pits had been recently sealed and repaired. The joints appeared to be sealed. The workers were preparing the staged waste to be mixed by removing the bungs. Bunker 1 appeared to be full, and contained the mixed materials as well as the containers that held the material. Bunker 2 appeared to be 1/8 full. No other problems were noted in the vicinity of the residual waste mixing area.

**o. SWMU 12 - Residual Waste Bulk Storage Area**

**1) 1993 RFA:**

The *September 1993 Final RFA Report* described this unit as being located on the southern end and western side of the property (Appendix B: Figure 9), consisting of five to ten 25-cubic yard steel rollofs and one or two dump trailers situated on a concrete base surrounded by a 1-foot concrete curb. Used for bulk storage of residual wastes received from the Residual Waste Mixing Area (SWMU 13) and offsite customers. The concrete base was sloped to direct spillage towards the Existing Stormwater Retention Pond (SWMU 1). However, almost all spillages would be contained within the Outdoor Containment Area (SWMU 20) without release of wastes into the Existing Stormwater Retention Pond (SWMU 1) as the diked concrete was capable of holding several thousands of gallons before requiring the additional capacity of the pond. The containment structure was installed in 1990. Prior to 1990, the units were situated on either a gravel or asphalt base. The contents of the unit were shipped offsite for landfilling.

Startup Date – 1978

Closure Date – The unit was still in operation during the VSI.

Wastes Managed – Managed residual wastes that included asbestos waste, used oils, filter cakes and sludges, petroleum contaminated soils, process wastewaters, spent contaminated coolant, spent blasting grit, inert paints and resins, and rinse waters from tank cleaning operations.

Releases/Investigations/Remedial Activities – No evidence of releases documented or observed during VSI.

Recommendation – No further action suggested.

2) **August 22, 2014 EI Inspection:**

Residual Wastes are accumulated and stored in bulk containers (i.e. bunkers, tanks) and in non-bulk containers (i.e. drums, cubic yard boxes, pallets, etc.). Closed non-porous containers such as metal or plastic drums containing solids are stored outdoors at the southern end of the property in Areas S2 and S3, but within the existing secondary containment system (SWMU 20). RW in fiberboard, paper, cardboard and wood containers as well as any non-bulk container holding sludges or liquids is stored inside the southern end of the RW Building (S1). Liquid and solid wastes are consolidated as follows (Appendix B: Figure 5):

- Liquid wastes are consolidated in the associated tanks located in the HW building (Tanks 1, 2, 6, 7, 8, 9) or directly into tankers.
- Solid wastes are bulked by dumping container contents into one of the three RW Building mixing pits (bunkers) and then transferred to bulk transport containers such as rollofs and dump trailers. This activity takes place only within the RW building. Solidification agents are added to the bunkers as needed.
- Sludges and semi-solids are dumped/pumped or otherwise deposited into one of the 3 bunkers and are solidified with an appropriate solidification agent.
- Depacking, resizing, and decanting of RWs.

p. **SWMU 13 - Residual Waste Drum Storage Area**

1) **1993 RFA:**

The *September 1993 Final RFA Report* described this unit as being located within the Outdoor Containment Area, south of the New Hazardous Waste Storage Area (SWMU 4). The area consisted of a sloping concrete base surrounded by a one foot concrete curb and used for placing and consolidating residual waste received from customers into drums. Remtech typically stored one thousand to fifteen hundred 55-gallon drums prior to shipment to an offsite disposal facility. Spillage would be directed to the Existing Stormwater Retention Pond (SWMU 1); however, almost all spillages would be contained within the Outdoor Containment Area (SWMU 20) without release of wastes into the Existing Stormwater Retention Pond as the diked concrete was capable of holding several thousands of gallons before requiring the additional capacity of the pond.

Startup Date – 1990

Closure Date – The unit was still in operation during the VSI.

Wastes Managed – Managed residual wastes that included asbestos waste, used oils, filter cakes and sludges, petroleum contaminated soils, process wastewaters, spent contaminated coolant, spent blasting grit, inert paints and resins, and rinse waters from tank cleaning operations.

Releases/Investigations/Remedial Activities – No evidence of releases documented or observed during VSI.

Recommendation – No further action suggested.

2) **August 22, 2014 EI Inspection:**

Residual Wastes are now accumulated and stored in bulk containers (i.e. bunkers, tanks) and in non-bulk containers (i.e. drums, cubic yard boxes, pallets, etc.) as noted on Appendix B: Figure 5.

Residual solid wastes contained in non-porous containers such as metal or plastic drums are stored outdoors in Areas S2 and S3, located on the south/southwest side of the property, which are both protected by the concrete Outdoor Containment Area (SWMU 20). A staging area is also located in the south-central area of the property within SWMU 20 where residual wastes are placed upon arrival. Within 7 days the RWs are sampled and liquids are sent to indoor Area S1 and solids are moved to outdoor Areas S2 and S3.

RW in fiberboard, paper, cardboard and wood containers as well as any non-bulk container holding sludges or liquids are stored inside the southern end of the RW Building (S1). The indoor area S1 also has an area with separate secondary containment for the storage of liquid corrosive and toxic hazardous wastes (C1). Area P1 is the processing area located inside the northern end of the RW building and includes 3 bunkers for bulk mixing and solidification of wastes. Liquid corrosive and toxic Hazardous Wastes (C2) are stored adjacent to the mixing pits just prior to mixing.

q. **SWMU 14 - Empty Drum Storage Trailer**

1) **1993 RFA:**

The *September 1993 Final RFA Report* described this unit as being located in the western portion of the property (Appendix B: Figure 9), west of Storage Area C (SWMU 7). The area consisted of one or two trailers, as needed, used to store drums that were emptied after consolidating the wastes into tanks (hazardous wastes) and rolloffs (residual wastes). Drum contents are pumped out and if necessary, residues scraped out prior to being transferred into the trailers. No washing of the drums occurred onsite. The contents of the unit were collected by an outside drum reconditioner as needed. Secondary containment consisted of the trailer situated within the Outdoor Containment Area (SWMU 20). Prior to 1990, the unit was underlain by an uncurbed asphalt pad.

Startup Date – 1989

Closure Date – The unit was still in operation during the VSI.

Wastes Managed – Managed empty drums that may have contained small amounts of hazardous waste as well as emptied residual waste drums that may have contained used oils, filter cakes and sludges, petroleum contaminated soils, process wastewaters, spent contaminated coolants, spent blasting grit, inert paints and resins, and rinse waters from tank cleaning operations.

Releases/Investigations/Remedial Activities – No evidence of releases documented or observed during VSI.

Recommendation – No further action suggested.

2) **August 22, 2014 EI Inspection:**

Storage trailers are no longer parked in the SWMU 14 area, as noted during the 1992 VSI inspection. During the EI inspection, several trailers/tankers were noted parked further south and adjacent to the western fenceline, within the curbed Outdoor Containment Area (SWMU 20) and the designated residual waste S2 and S3 storage areas (Appendix B: Figure 6). Some stains were noted on the Outdoor Containment Pad in these areas as shown on photographs in Appendix A.

Two trailers were also noted parked just outside the RW Building in the northeast quadrant of the property and were being used for managing empty drums from the RW Building processing area. As noted on photographs in Appendix A, the concrete beneath the trailer loading area was stained.

r. **SWMU 15 - Scrap Steel Rolloff Container**

1) **1993 RFA:**

The *September 1993 Final RFA Report* described this unit as being located in the western portion of the property west of the New Hazardous Waste Storage Tanks (SWMU 6) as noted on Appendix B: Figure 9. This area consisted of a rolloff container storing empty, unusable drums accumulated after transfer of wastes to tanks (hazardous) and rolloffs (nonhazardous). Drums were sent to a steel recycler as needed. Contents of the drums were pumped out and if necessary, residues scraped out prior to being transferred to the unit. Reportedly, no washing of drums occurred onsite. The unit is situated in a trailer inside the Outdoor Containment Areas (SWMU 20)

Startup Date – 1989

Closure Date – The unit was still in operation during the VSI.

Wastes Managed – Managed empty drums that may have contained small amounts of hazardous waste as well as emptied residual waste drums that may have contained used oils, filter cakes and sludges, petroleum contaminated soils, process wastewaters, spent contaminated coolants, spent blasting grit, inert paints and resins, and rinse waters from tank cleaning operations.

Releases/Investigations/Remedial Activities – No evidence of releases documented or observed during VSI.

Recommendation – No further action suggested.

2) **August 22, 2014 EI Inspection:**

During the EI site inspection a trailer holding scrap metal and a tanker trailer were noted in the outside area west of the Hazardous Waste Storage Tanks (SWMU 6). In the southwest corner, wood pallets and scrap metal were noted being stored on top of the Outdoor Containment Area (SWMU 20). An enclosed trailer was also noted in the southwest corner which housed facility paperwork/manifests. All of these trailers were parked within the curbed Outdoor Containment Area (SWMU 20) and within the designated residual waste S2 and S3 storage areas (Appendix B: Figure 6). Some stains were noted on the Outdoor Containment Area as shown on photographs in Appendix A.



s. **SWMU 16 - Dumpsters**

1) **1993 RFA:**

The *September 1993 Final RFA Report* described this unit as being located in the parking lot on the eastern side (Note: erroneously noted western side) of the Residual Waste Facility Building (560 Industrial Drive) and the eastern portion of the Outdoor Containment Area (SWMU 20) south of the employee parking lot (550 Industrial Drive) as noted on Appendix B: Figure 10 and Figure 9, respectively. Consisted of four metal forkload-emptied containers with an approximate capacity of five cubic yards each, used to receive recyclable paper and cardboard as well as domestic refuse generated by the facility office. The containers were situated on a concrete base surrounded by a one-foot concrete curb. Containment was added in 1990; prior to this time, the containers sat on an asphalt base.

Startup Date – 1979

Closure Date – The unit was still in operation during the VSI.

Wastes Managed – Domestic refuse and recyclable paper products.

Releases/Investigations/Remedial Activities – No evidence of releases documented or observed during VSI.

Recommendation – No further action suggested.

2) **August 22, 2014 EI Inspection:**

During the EI inspection, one metal forkloder-type waste container was documented outside the fenced-in area adjacent to the West Gate and being used for recyclable wastes generated by the facility office. No problems were noted in the area.

t. **SWMU 17 - Grease Trap**

1) **1993 RFA:**

The *September 1993 Final RFA Report* described this unit as being located at the southern end of the property adjacent to the Former Mounded Tanks (SWMU 18) as noted on Appendix B: Figure 9 and Figure 12. The unit consisted of a below-grade concrete-lined sump with a capacity of 1,000 gallons that received solids and liquids discharged from the Storage Area C Containment Trenches (SWMU 8). Wastes from the Storage Area C Containment Trenches were discharged via an iron pipeline into the unit. Liquids from the unit were discharged to the Former Stormwater Retention Basin (SWMU 2). Solids collected in the unit were reportedly removed and drummed. The unit was taken out of service prior to 1987. In May 1989, it was excavated, along with visibly stained soils. However, no confirmatory sampling was reportedly conducted. In 1990, the area surrounding the unit was paved over during the installation of the Outdoor Containment Area (SWMU 20).

No release controls were reportedly associated with this unit.

Startup Date – 1979

Closure Date – May 1989

Wastes Managed – During IWR's operations, the eastern trench reportedly received heels and residuals from the cleaning of spill response vehicles and equipment, and the western trench primarily managed waste engine oils and coolants generated by vehicle maintenance operations.

Releases/Investigations/Remedial Activities – During the excavation of the unit while removing product Tanks #5 #6, and #9, a small amount of liquid escaped and collected on the soils beneath the unit. Reportedly, all visibly saturated soils were excavated. No confirmatory sampling associated with the excavation was reportedly conducted.

Recommendation – Confirmatory sampling of the soils surrounding and under the unit was suggested.

**2) August 22, 2014 EI Inspection:**

The 1990 approved extension of the hazardous waste building and the concrete Outdoor Containment Area (SWMU 20) were constructed over this area after the grease trap was removed. A January 26, 1989 *Consent Order and Agreement* – (Section A.4) required that construction of the new building extension could not be performed until area sampling/analyses confirmed neither environmental pollution nor the necessity for minor remediation. REMTECH soils were sampled/analyzed in the vicinity of the New Hazardous Waste Storage Area (SWMU 4) prior to construction of the facility expansion. These samples did not contain detectable levels of PCBs, dioxin, acid extractable priority pollutants, or volatile organic compounds; however, priority pollutant metals were detected. Therefore at the request of PADEP, REMTECH collected additional soil samples on August 22, 1989 at three random locations in the vicinity of the expansion for the New Hazardous Waste Storage Area (SWMU 4) (Benatec, Associates – *September 1989 Soil Sampling Report*). Bis(2-ethylhexyl)phthalate (75 – 144 µg/kg), barium (50 – 75 mg/kg), chromium (7 – 11 mg/kg), copper (9 – 23 mg/kg), nickel (12 – 16 mg/kg), thallium (0.63 – 1.4 mg/kg), zinc (13 – 15 mg/kg) were detected, all below each individual present-day (2016) PADEP Act 2 Residential/Nonresidential MSC<sub>SOIL</sub>, except for bis (2-ethylhexyl)phthalate (PADEP Act 2 MSC<sub>SOIL</sub> is 130 mg/kg). The bis (2-ethylhexyl) phthalate (noted in the report as a common plasticizer found in several plastic environments, including laboratories) was not considered significant.

The hazardous waste building modifications were certified by REMTECH and an independent professional engineering firm. PADEP granted approval in mid-1990 to resume full operations using the new storage building.

Although limited, the soils were sampled prior to PADER approving the hazardous waste building extension. As noted on Appendix B: Figure 13 and Figure 14, the area of soils surrounding the former grease trap area are no longer exposed due to the overlying hazardous waste building and Outdoor Containment Area (SWMU 20) which reduces the possibility of leaching. Therefore, no concerns were noted in this area during the EI inspection.

**u. SWMU 18 - Former Mounded Tanks**

**1) 1993 RFA:**

The *September 1993 Final RFA Report* described this unit as being located in the southeastern portion of the property, north of the Former Stormwater Retention Basin (SWMU 2) as noted on Appendix B: Figure 3 and Figure 9. The area consisted of five horizontal carbon steel tanks which were buried to half of their depth and then covered

with soil. The tanks were situated upon a gravel and sand bed surrounded by a six-inch perforated PVC piping. Tanks were loaded using a vacuum tanker and pumping into the fill pipe for the individual tank with a diaphragm pump. Tanks were emptied into vacuum tankers by inserting a suction tube through the tank opening. Leakage released to the underground piping system was discharged to the Former Stormwater Retention Basin (SWMU 2). The units underwent a state approved closure in 1986. Closure certification was submitted on December 29, 1986 and accepted by PADEP on March 6, 1987.

Startup Date – 1979

Closure Date – November 1986 (PADER approved closure)

Wastes Managed –

- Tank #1 – 20,000 gallon - Dirty light No. 2 oil from cleanup of oil spills
- Tank #2 - 20,000 gallon - Petroleum refining wastes; clean light oil for Tank #7
- Tank #3 - 20,000 gallon - Dirty heavy No. 5 and No. 6 oils; contents of Western Storage Area C Trenches (SWMU 7)
- Tank #4 - 20,000 gallon - No. 6 oil; gasoline sludge; and ignitable solvents
- Tank #8 - 10,000 gallon - Gasoline sludge; dirty industrial wastewaters; and rinse waters from cleaning spill response equipment and vehicles

Releases/Investigations/Remedial Activities – Soil sampling was conducted during the state-approved closure of the tanks and the results did not reveal any elevated levels of hazardous constituents. No visible signs of contamination were observed during the excavation activities. The analytical results of sampling conducted at the unit are included in the *September 1993 Final RFA Report* and *Section B.7 - Investigations and Remedial Actions to Date*. Closure was approved by PADEP on March 6, 1987.

Recommendation – No further action was suggested.

2) **August 22, 2014 EI Inspection:**

The hazardous waste building, residual waste building and Outdoor Containment Area (SWMU 20) have been built over the former mounded tank areas as noted on Appendix B: Figure 13 and Figure 14 thus reducing the possibility of leaching if contaminants were left behind in the soils. Although limited, the soils were sampled for closure purposes when the tanks were removed and closure approval was given by PADER, therefore, no concerns were noted in this area during the EI inspection.

v. **SWMU 19 - Loading/Unloading Areas**

1) **1993 RFA:**

The *September 1993 Final RFA Report* described these units as being located outside along the western wall of the new expansion of the hazardous waste building and on the eastern side of Storage Area C (SWMU 7). The areas were utilized for loading and unloading tanker trucks and drums containing hazardous wastes to and from the Hazardous Waste Storage Tanks (SWMU 6). Two of the units located along the western wall of the hazardous waste building consisted of coupling points for connecting hoses to tankers situated above steel containment bins. The units were contained within the concrete base of the Outdoor Containment Area (SWMU 20) and were covered by metal covers. The tanks could be filled or emptied using vacuum tankers. Some staining of the concrete pad adjacent to the units was observed at the time of the VSI. The third

Loading/Unloading Area was located adjacent to Storage Area C (SWMU 7) in a portion of the Outdoor Containment Area (SWMU 20) and was utilized for the transfer of drummed wastes from trucks as well as a temporary staging area for incoming wastes awaiting the results of fingerprint analysis. Incoming drums may also have been sampled in this area. Prior to the installation of the Outdoor Containment Area (SWMU 20) these units were underlain by uncurbed asphalt.

Startup Date – 1989

Closure Date – The unit was still in operation during the VSI.

Wastes Managed – Ignitable and non-ignitable hazardous wastes.

Releases/Investigations/Remedial Activities – No evidence of releases were documented or observed during the VSI.

Recommendation – No further action was suggested.

**2) August 22, 2014 EI Inspection:**

The two outdoor units located on the western outside wall of the hazardous waste building are still similar to the setup in 1993: consisting of coupling points for connecting hoses to tankers; situated above steel containment bins that sit upon the concrete base of the Outdoor Containment Area (SWMU 20); and covered by a metal roof. The concrete area in the vicinity of the steel containment bins was in good condition; however some staining was noted in the vicinity of the tanker hookup areas, photographs in Appendix A.

The third Loading/Unloading Area documented in the 1993 RFA, adjacent to Storage Area C (SWMU 7), was in the process of being changed due to the newly constructed Outdoor/Covered Area D (south end of the HW Building) as noted on Appendix B: Figure 6. The new Outdoor/Covered Area D was currently being used as a staging area; however drums were also documented in the old Area D (outdoor area in-between the HW and RW Buildings). CCI explained that they would sort and send all the waste they have in the old Area D by the end of the following week. In the newly constructed Outdoor/Covered Area D, there were lines that determined container spacing and no visible unfilled cracks were noted. CCI explained the surface layers, which included 1 layer of epoxy, 1 layer of black epoxy, mesh, and then 2 topcoats of epoxy. The secondary containment trenches within the new Outdoor/Covered Area D appeared free of solution and debris.

A fourth Loading/Unloading Area was noted during the EI site inspection on the west side of the hazardous waste building. This area is referred to as Area E4 (KilnDirect Box) in the September 26, 2008 *RCRA Part B Hazardous Waste Permit* and as noted on Appendix B: Figure 5. This unit is a self-contained, enclosed box used to consolidate organic flammable and/or solvent liquids and sludges. Materials can be added to the indoor unit by direct pumping (from outdoor tankers) or dumping (from containers located inside the hazardous waste building). This E4 unit resides inside the hazardous waste building in-between the two AST areas (E1 and E2); however a hose/coupling extends from the indoor E4 unit to the outdoor tanker hookup area located on the west side of the hazardous waste building as noted in photographs in Appendix A. Although a drip pan was noted beneath the E4 KilnDirect Box tanker hose coupling, staining of the

Outdoor Containment Area (SWMU 20) was documented in this area during the EI site inspection as noted on photographs in Appendix A.

**w. SWMU 20 - Outdoor Containment Area**

**1) 1993 RFA:**

The *September 1993 Final RFA Report* described this unit as being located within the fenced area of the REMTECH property and consisted of a sloping concrete base surrounded by a one-foot curb constructed with chemically-resistant water-stopped sealed joints. The unit served as containment for the loading/unloading operations (SWMU 19), the residual waste rollofs and drums (SWMUs 12 and 13), as well as the Empty Drum Storage Trailer (SWMU 14) and the Scrap Steel Rolloff Container (SWMU 15). Liquid collected within the unit may be discharged to the Existing Stormwater Retention Basin (SWMU 1) via an isolation valve, which was reportedly kept locked at all times to prevent accidental discharge. Some staining and runoff with an oily sheen were observed at the time of the VSI.

Startup Date – 1990

Closure Date – The unit was still in operation during the VSI.

Wastes Managed – Spills and stormwater which may have contained any of the wastes accepted at the facility. In addition, the unit may have managed residual wastes which may have included asbestos wastes, used oils, filter cakes and sludges, petroleum contaminated soils, process wastewaters, spent contaminated coolants, spent blasting grit, inert paints and resins, and rinse waters generated from tank cleaning operations.

Releases/Investigations/Remedial Activities – On July 25, 1990, a spill of 50 gallons of flammable liquid occurred at the northeast corner of unit due to a drum rupturing. However, none of the material was reportedly released to the surrounding soil. The liquid was pumped out and drummed. At the time of the VSI, staining, oily runoff, and a leaking drum were observed at the unit. The facility began cleanup of this spill during the VSI.

Recommendation – No further action was suggested.

**2) August 22, 2014 EI Inspection:**

During the EI inspection, there had been a light rain. As a result, cracks in the Outdoor Containment Area (SWMU 20) were more noticeable. In several areas, the chemically-resistant water-stopped sealed joints appeared to be compromised and needed to be corrected/resealed. In one area west of the new Outdoor/Covered Area D, a separation was documented approximately 3” wide and filled with soil. This separation was outside of the new Outdoor/Covered Area D and it was not behind the secondary containment trenches thus allowing for possible contaminant migration if there were to be a spill in the new Outdoor/Covered Area D. Photographs in Appendix A document numerous joints/seams/cracks noted in the concrete Outdoor Containment Area (SWMU 20) during the EI inspection. Stains were also noted in several areas.

PADEP recommended that: 1) CCI inspect and ensure that there are no cracks or separations in the concrete surrounding the new hazardous waste staging area; 2) CCI fill in the current separations noted during the inspection; and 3) CCI routinely inspect the

entire concrete Outdoor Containment Area for compromised areas so that the integrity of the impermeable surface can be maintained.

Also during the EI inspection, two outdoor self-contained storage sheds used for storing Dangerous When Wet (DWW) materials were documented on the southcentral side of the Outdoor Containment Area (SWMW 20) as noted on photographs in Appendix A. These storage sheds are used for storage of water reactive and pyrophoric materials. The containers inside the sheds were closed and labelled.

The facility traffic flow and the loading/unloading areas will change with the use of the newly constructed Outdoor/Covered Area D staging area (Appendix B: Figure 6). The vehicles will come through the West Gate and drop off at the new Outdoor/Covered Area D. Note: The East gate will continue to be used for incoming/outgoing bulk residual wastes that are directly emptied into and/or removed from the RW Building processing area (i.e. mixing bunkers.)

As long as CCI maintains the impermeable surface of the secondary Outdoor Containment Area (SWMU 20), the underlying soils and groundwater should remain protected in the vicinity of the loading/unloading areas.

## **2. SWMUs and/or AOCs - 560 Industrial Drive Property:**

During the August 26, 2014 EI Inspection, the SWMUs and AOC identified at the 560 Industrial Drive property (1993 RFA and 1993 Tethys Reports) were inspected. The 1993 SWMUs were no longer existing and the UST AOC D contamination had been addressed in 1993. The property is presently owned by B&C Fasteners which is a pneumatic tool and fastener business. The company has an extensive onsite inventory of pneumatic tools, fasteners (staples, nails, screws, springs), and parts. The building is used for sales/office, storage of steel parts, and tool repair services. SWMU and AOC documentation from the *September 1993 Final RFA Report* is inserted below in addition to their current status documented during the August 26, 2014 EI Inspection.

### **a. AOC D - Keller Building USTs**

#### **1) 1993 RFA:**

The *September 1993 Final RFA Report* described this unit as being located on the eastern side of the 560 Industrial Drive residual waste building, as noted on Appendix B: Figure 10 and Figure 15, and consisting of three underground storage tanks. All three units were located underneath an asphalt parking lot. Dates of installation of these tanks were unknown. The first unit was a 10,000-gallon steel tank used for the storage of diesel fuel. The second unit was of a 2000-gallon steel tank used for the storage of No. 2 fuel oil. The third tank was a 500-gallon steel tank utilized for the storage of fuel oil. Facility representatives were unable to provide any details of construction or release controls for these units. All three of the tanks were removed in May and June, 1989. No evidence of leakage was identified during sampling and removal of the 10,000-gallon or the 2000-gallon USTs. However, during the removal of the 500-gallon UST, leakage of diesel fuel to the surrounding soils was reported. Surrounding soils were excavated and shipped offsite for incineration.

Startup Date – 1979

Closure Date – Removed in May/June 1989, Closure Report approved by PADEP Environmental Cleanup Program on May 5, 1993.

Wastes Managed – None – product storage.

Releases/Investigations/Remedial Activities – REMTECH stated that the 500 gallon fuel oil UST had corroded severely and was found to have leaked diesel fuel into the surrounding soils.

Approximately ten cubic yards of contaminated soils were excavated and shipped offsite for incineration. Excavation was to bedrock or refusal, and therefore, no sampling was apparently conducted in 1989 to confirm that all of the contaminated soils had been removed.

Recommendation – Confirmatory sampling of the soils under and surrounding the unit was suggested.

2) **August 22, 2014 EI Inspection:**

As noted in *Section B.7 - Investigations and Remedial Actions to Date* of this EI report soil and groundwater samples were collected. Contaminated soil was identified during an environmental investigation in July/August 1993 as noted on Appendix B: Figure 16. Approximately 42 tons of impacted soil was removed from the former UST area. Analysis of post-excavation samples for TPH and BTEX showed non-detectable levels in soil and low levels of TPH, ethylbenzene and xylenes in water in the excavation. Groundwater samples from two shallow groundwater monitoring wells indicated TPH and BTEX were not present at detectable levels in shallow groundwater. A groundwater sample from the private water well identified at the 560 Industrial Drive property on the west side of the building contained concentrations of VOCs below PADEP and USEPA drinking water standards.

During the EI inspection, this Area of Concern was being used by B&C Fasteners as a parking area. As noted in the photographs (Appendix A), the ground surface is asphalt paved and no problems were noted. Closure sampling was conducted in 1993 and accepted by the Department. The area is now paved thus reducing the possibility of leaching if contaminants were left behind in the soils. No further action is recommended for this former area of concern.

b. **SWMU 21 – Keller Drum Storage Area**

1) **1993 RFA:**

The *September 1993 Final RFA Report* described this unit as being located inside the 560 Industrial Drive Residual Waste Building as noted on Appendix B: Figure 10. It consisted of a concrete pad surrounded by absorbent materials and was used for storage of residual (nonhazardous) wastes collected from REMTECH's customers. Storage capacity was a maximum of approximately 5,350 cubic yards of material; however, the maximum volume of wastes in storage at the unit was reported by the facility to be fewer than 130 cubic yards. Drums were placed in rows and stacked three high. Drums were transferred to the 550 Industrial Drive Hazardous Waste Building by box trailer for consolidation/solidification in the Residual Waste Mixing Area (SWMU 11) or shipment offsite for landfilling.

Startup Date – Remtech began storing wastes in this area in 1991. Prior to 1991, only product was stored.

Closure Date – The unit was still in operation during the VSI.

Wastes Managed – Managed residual wastes may have included asbestos wastes, used oils, filter cakes and sludges, petroleum contaminated soils, process wastewaters, spent contaminated coolants, spent blasting grit, inert paints and resins, and rinse waters from tank cleaning operations.

Releases/Investigations/Remedial Activities – No evidence of releases were documented or observed during the February 25, 1992 VSI.

Recommendation – No further action was suggested.

- 2) **August 22, 2014 EI Inspection** – This unit was closed with sale of property in 1993. The area was being used by B&C Fasteners as an equipment/parts storage area. As noted in the photographs (Appendix A) some staining was noted on the concrete floor due to the former residual waste drum storage area; however no further action is recommended.

c. **SWMU 22 - Trench System**

1) **1993 RFA:**

The *September 1993 Final RFA Report* described this unit as being located inside the Residual Waste Building as noted on Appendix B: Figure 10 and consisted of a concrete-lined trench, approximately six inches wide, and extending along the center of the building floor. The unit may have received drippings generated from vehicle maintenance operations conducted at the facility and also may have received spills from the Keller Drum Storage Area (SWMU 21). The unit discharged out onto the pavement surrounding the southern portion of the property, and presumably down into a drainage swale which ran along the eastern portion of the property. The building was built in 1975; however, the facility did not begin to use it for vehicle maintenance until 1989. The unit appeared to be dry and in good condition during the VSI.

Startup Date – 1975

Closure Date – The unit was still in operation during the VSI.

Wastes Managed – Managed spills from the maintenance of facility vehicles as well as leakage from drums storing residual waste.

Releases/Investigations/Remedial Activities – No evidence of releases were documented or observed during the VSI; however, the unit was reported to discharge directly to soils at the southern end of the building.

Recommendation – Confirmatory sampling of the soils in the vicinity of the discharge point of the unit and along the drainage swale was suggested.

2) **August 22, 2014 EI Inspection:**

This unit was closed with sale of property in 1993. During the EI inspection, the former indoor trench unit, the former trench floor drain outfall, and the former sink outfall were observed. The entire indoor trench was observed to be cemented to ground surface. The outfalls from the former indoor trench floor drain and sink were also completely sealed (southern end of the building) as noted in the photographs (Appendix A). Confirmatory



sampling of the outfall areas was conducted on July 7, 1993 (Soil Sample #9) and no constituents of concern were detected, as noted later in this EI report under *Section B.7.1 - Closure Report for REMTECH Environmental – August 5, 1993*. As a result of no problems being noted for these areas during the EI Inspection and the 1993 soil sampling event, no further action is recommended for this former unit.

**d. SWMU 23 – Exterior Residual Waste Rolloffs**

**1) 1993 RFA:**

The *September 1993 Final RFA Report* described this unit as being located on the east side of the 560 Industrial Drive Residual Waste Building as noted on Appendix B: Figure 10 and consisted of one 25-cubic yard steel rolloff situated on an asphalt base. It was used for the storage of residual (nonhazardous) waste collected from REMTECH customers. Wastes may also have been transferred to this unit from the 550 Industrial Drive Residual Waste Mixing Area (SWMU 11) and/or the 550 Industrial Drive Residual Waste Bulk Storage Area (SWMU 12). No curbing was present. The rolloffs were transferred by a rolloff truck to the 550 Industrial Drive Hazardous Waste Building for consolidation/solidification, prior to offsite shipment for landfilling.

Startup Date – 1990

Closure Date – The unit was still in operation during the VSI; however, no rolloff container had been staged at the site for several months.

Wastes Managed – Solid and semi-solid residual wastes handled in this unit may have included filter cakes and sludges, petroleum contaminated soils, spent blasting grit, and inert solidified paints and resins.

Releases/Investigations/Remedial Activities – No evidence of releases were documented or observed during the February 25, 1992 VSI.

Recommendation – No further action was suggested.

**2) August 22, 2014 EI Inspection:**

This unit was closed with the sale of property in 1993. During the EI Inspection, this area was being used by B&C Fasteners as an outdoor loading/unloading area. Two municipal waste dumpsters (one used for recycling) were documented in the parking lot about 100 feet north of the former SWMU 23 area. As noted in the photographs (Appendix A), the ground surface is asphalt paved and no problems were noted. No further action is recommended for this former unit.

**e. SWMU 24 – Waste Oil Satellite Accumulation Area**

**1) 1993 RFA:**

The *September 1993 Final RFA Report* described this unit as being located indoors in the western portion of the 560 Industrial Drive Residual Waste Building as noted on Appendix B: Figure 10. The area consisted of a 55-gallon steel drum situated on a concrete base that received waste oils from vehicle maintenance operations. The top of the drum was cut off and replaced with a funnel. Drip pans containing used oil were manually poured through the funnel into the drum. Typically the pan was left on top of the funnel to dry. When full, the contents of the drum were transferred to the 550 Industrial Drive hazardous waste facility for consolidation into the 550 Industrial Drive

New Hazardous Waste Tanks (SWMU 6) prior to shipment offsite to an oil recycler or hazardous waste fuel burner.

Startup Date – 1989

Closure Date – The unit was still in operation during the VSI.

Wastes Managed – Managed waste oils from vehicle maintenance operations.

Releases/Investigations/Remedial Activities – No evidence of releases were documented or observed during the February 25, 1992 VSI.

Recommendation – No further action was suggested.

**2) August 22, 2014 EI Inspection:**

During the EI Inspection, this area was being used by B&C Fasteners as an indoor storage area and no problems were noted in the area as noted in the photographs (Appendix A). No further action is recommended for this former unit.

**3. STORAGE TANKS - 550 Industrial Drive Property:**

The following product and hazardous waste tanks were identified in IWR's Part B hazardous waste permit application and on Appendix B: Figure 7 and Figure 8. The hazardous waste tanks were referred to as SWMU 18 and the product tanks were referred to as AOC A in the September 27, 1993 Final RFA. Tanks 1, 2, 3, 4, 5, 6, 8, and 9 were mound-buried (i.e., the tank excavation was approximately one-half the depth, and the soil from the excavation was mounded over the top of the tanks) and were grouped into two separate mounds located off the southeast corner of the building. Tanks #1, #2, and #8 were grouped together and Tanks #3, #4, #5, and #6 were grouped together. There were masonry manholes extending to grade that were covered with a steel plate. The manholes provided access to the manhole on each tank which was opened for cleaning. Each tank had a fill pipe and a vent pipe. The tanks could only be emptied by inserting a suction tube down through the opening into the tank. There was no interconnection piping, no withdrawal piping, and no fill piping. According to the as-built Tank Farm plan, the tanks were underlain by a 12-inch thick stone drainage pad and were surrounded by a four-inch diameter perforated pipe with two crossing runs embedded into the stone pad. The tanks were seated in a minimum of 3 feet, six inches of sand. The perforated drainage piping for the western group of mound-buried tanks was connected to the piping for the eastern group of tanks, then discharged directly into the stormwater retention pond. Two fuel dispensing pumps that were connected to Tanks #5 and #6 were located at the edge of the asphalt paving. Tank #9 was located directly west of the western group of mound-buried tanks, but did not appear to be included in this drainage system. A later site plan shows a dispensing pump was situated directly north of Tank #9 as documented on Appendix B: Figure 8. Tank #7, referred to as AOC B in the September 27, 1993 Final RFA, was a buried tank (UST) located on the northeast side of the building along 550 Industrial Drive. This tank was utilized to store heating oil which was used to heat the building. The mound-buried hazardous waste tanks (Tank #1, Tank #2, Tank #3, Tank #4 and Tank #8) were identified as SWMU 18 and the mound-buried and UST product tanks (Tank #5, Tank #6 and Tank #9) were identified as AOC A in the 1993 Final RFA.

**Mound-Buried and/or UST Tanks – IWR Facility 550 Industrial Drive**

<b>Tank ID</b>	<b>ID from 1993 Final RFA</b>	<b>Construction</b>	<b>Capacity (gallons)</b>	<b>Contents</b>	<b>Status</b>
Tank #1 (Mounded)	SWMU 18	Carbon steel coated with black asphaltum	20,000	Dirty light No. 2 oil from cleanup of oil spills (S02)	On 1980 plan layout; Removed by IWR November 1986
Tank #2 (Mounded)	SWMU 18	Carbon steel coated with black asphaltum	20,000	Petroleum refining wastes; clean light oil for Tank #7 (S02)	On 1980 plan layout; Removed by IWR November 1986
Tank #3 (Mounded)	SWMU 18	Carbon steel coated with black asphaltum	20,000	Dirty heavy No. 5 and No. 6 oils; contents of Western Storage Area C Trenches (SWMU 7) (S02)	On 1980 plan layout; Removed by IWR November 1986
Tank #4 (Mounded)	SWMU 18	Carbon steel coated with black asphaltum	20,000	No. 6 oil; gasoline sludge; and ignitable solvents (S02)	On 1980 plan layout; Removed by IWR November 1986
Tank #5 (Mounded)	AOC A	Steel	10,000	Diesel (fuel)	On 1980 plan layout; Removed by REMTECH May 1989
Tank #6 Mounded	AOC A	Steel	10,000	Gasoline or diesel (fuel)	On 1980 plan layout; Removed by REMTECH May 1989
Tank #7 (UST)	AOC B	Steel	10,000	No. 2 heating oil	On 1980 plan layout; Removed by REMTECH February 1993
Tank #8 (Mounded)	SWMU 18	Carbon steel coated with black asphaltum	10,000	Gasoline sludge; dirty industrial wastewaters; and rinse waters from cleaning spill response equipment and vehicles (S02)	On 1980 plan layout; Removed by IWR November 1986
Tank #9 (Mounded)	AOC A	Steel	10,000	Gasoline (fuel)	Removed by REMTECH May 1989

### New Hazardous Waste Building Indoor AST Storage Tanks – REMTECH Facility 550 Industrial Drive

<b>Tank ID</b>	<b>Construction</b>	<b>Capacity (gallons)</b>	<b>Contents</b>	<b>Status</b>
Tank #1	Carbon steel	7,500	Chlorinated ignitable wastes	Presently in use
Tank #2	Carbon steel	7,500	Nonchlorinated ignitable wastes	Presently in use
Tank #6	Carbon steel	7,500	Oil/water mixtures; compatible toxic and TC toxic	Presently in use
Tank #7	Carbon steel	7,500	Oil/water mixtures; compatible toxic, TC toxic, and corrosive (alkaline) wastes	Presently in use
Tank #8	Carbon steel	7,500	Oil/water mixtures (residual waste liquids)	Presently in use
Tank #9	Carbon steel	7,500	Oil/water mixtures (residual waste liquids)	Presently in use

The mound-buried/USTs were removed from the 550 Industrial Drive property in 1986, 1989, and 1993. Closure documentation and laboratory analytical results are summarized later in this EI report under *Section B.7 - Investigations and Remedial Actions to Date*.

On June 3, 1994, REMTECH received the results of the thickness testing and visual inspection of the six above-mentioned ASTs. The ASTs were in overall good condition and the results of the thickness testing met the standards as specified in the Tank Evaluation and Repair Plan.

#### 4. **STORAGE TANKS - 560 Industrial Drive Property:**

The following USTs were identified at the 560 Industrial Drive facility. These USTs were also referred as AOC D in the *September 27, 1993 Final RFA Report* and as noted on Appendix B: Figure 10.

### UST Tanks – REMTECH Facility 560 Industrial Drive

<b>Tank ID</b>	<b>ID from 1993 Final RFA</b>	<b>Construction</b>	<b>Capacity (gallons)</b>	<b>Contents</b>	<b>Status</b>
Diesel fuel tank	AOC D	Steel	10,000	Diesel (fuel)	Removed by REMTECH May 1989
No. 2 oil tank	AOC D	Steel	2,000	No. 2 fuel oil	Removed by REMTECH May 1989
Fuel oil tank	AOC D	Steel	500	Fuel oil for building heater	Removed by REMTECH June 1989

The USTs were located beneath the parking lot on the eastern side of the 560 Industrial Drive building and identified as AOC D in the *September 1993 Final RFA*. The diesel fuel and No. 2 oil tanks were removed in May 1989 with no obvious signs of soil contamination. Removal of the 500-gallon fuel oil tank was halted by REMTECH due to the poor condition of the tank and signs of contamination. Excavation, post-excavation soil sampling, and installation/monitoring of two shallow groundwater wells were completed in 1993 prior to final closure of this compromised UST, which is summarized in *Section B.7 - Investigations and Remedial Actions to Date*.

## **5. RELEASES, SPILLS, AND OTHER REPORTED INCIDENTS – 550 Industrial Drive Property**

The facility has had multiple releases, spills, and other reported incidents on site. The following provides a summary of those incidents that resulted in enforcement action initiated by PADEP and/or USEPA, or for which environmental media was potentially impacted.

### **a. Outdoor Release of Liquid Waste – September 7, 1989**

One of the sides of a rolloff container ruptured while being filled with liquid waste (80 percent water, 5 percent waste oil, and 15 percent dirt and grit) at the south end of the facility. Approximately 50 to 60 gallons of the materials spilled onto the surrounding pavement and flowed approximately 20 feet from the rolloff. Speedi-dry was placed onto all affected pavement then into drums to be disposed of offsite as hazardous waste. Absorbent pads were placed onto all affected soil areas (identified as roadbed); the effected soils were removed to the extent that no contamination could be seen or smelled (approximately 1 cubic yard) and placed in a rolloff container to be disposed of at a permitted TSD facility. A nearby culvert was not impacted.

### **b. Spill of Flammable Liquid – July 26, 1990**

On July 26, 1990, one drum of flammable liquid (methanol, ethanol, isopropyl alcohol, chloroform, toluene, acetate, xylene, and phenol) ruptured and released 50 gallons of the liquid onto the concrete containment pad on the northeast side of the facility approximately 15 feet from the storage building. The drum was being temporarily stored in the outside storage area while the indoor storage area floor was under repair. The spill was immediately contained and cleaned up using absorbents. The building was wiped down by hand and the resultant waste was drummed and disposed offsite. No environmental impact was expected. The facility submitted a spill report to PADEP on August 5, 1990.

### **c. Sediment Sampling – Stormwater Retention Pond – August 1990**

On August 23, 1990, REMTECH notified PADEP that approximately 200 gallons of a lead-contaminated liquid spilled out from the top of a tarped rolloff container as it was being off-loaded from the rolloff trailer. The spill occurred on the southern side of the concrete containment pad. Approximately 10 gallons flowed into the stormwater draining system and into the pond. The discharge valve was closed and the liquid cleaned up using absorbents. The drainage system was washed out and all spillage was contained within the diked secondary containment area or the pond. Approximately 9,700 gallons of liquid was pumped from the pond and disposed offsite; the pond water was analyzed and determined to be nonhazardous. PADEP inspected the pond and recommended additional characterization of the pond contents prior to discharging the pond water.

On August 23, 1990, RTES provided PADEP the analytical results for liquid and sediment samples collected from the pond to determine whether contamination was significant (analytical results were attached). The primary constituent of concern was lead; elevated concentrations of lead were detected in the pond water and sediment samples. RT recommended:

- 1) Partial cleanout and removal of the contents of the pond unless resampling after removal of half of the contents suggests the remaining contents should be removed.
- 2) Use of a filter or filter cartridge when pumping from the pond due to the minor presence of asbestos.
- 3) Due to the amount of rainwater entering the pond, it was probable that the liquid contents of the pond were below Ambient Water Quality Criteria.
- 4) Cleanout of the pond sediments due to the elevated lead levels to minimize the potential for recontamination of the pond liquids.

**d. Improper handling of Stormwater Lagoon sediments in 1994:**

REMTECH dumped or deposited or permitted the dumping or depositing of solid waste in the form of contaminated sediments from the lined stormwater lagoon onto the surface of the ground. The contamination was confirmed through sampling conducted by the Department on November 11 and 17, 1994.

**e. Release of Vapors Inside Facility Building – February 18, 1998**

On February 25, 1998, REMTECH notified PADEP that a 5-gallon polyethylene pail containing ethyl chloroformate was ventilating a white vapor in row F04 inside the main storage building. The immediate area was evacuated. The container inside of the pail was transferred to a larger container and covered with diesel fuel to eliminate the vapors. No liquid spilled to the ground. There was no reported contamination of soil or groundwater. Vapors accumulated inside of the building until dispersed with the introduction of fresh air. No discernible volume of liquid was lost to the atmosphere and no reportable quantity was released.

**f. Burning of Nitroglycerin Waste – July 24, 2000**

On August 21, 2000, CCI reported to PADEP that an employee destroyed nitroglycerin-contaminated glassware (approximately one gram of rags or other absorbent with some glass shards) in a drum in the residual waste process area. A labpack of toluene solvent was poured onto the nitroglycerin waste in a 55-gallon drum and ignited. The fire was extinguished by throwing oil-dry on it. The remains were disposed in the residual waste rolloff. No explosions occurred. PADEP issued an NOV on November 6, 2000 and a CACP on January 16, 2001 for this incident as well as violations noted during the August 8, 2000 facility inspection and administrative file reviews (related to biennial and annual reporting requirements) and manifest violations.

**g. Mercaptan Incident – October 25, 2000**

On October 27, 2000, CCI notified PADEP of a release of vapors that occurred at the facility on October 25, 2000. CCI employees were pumping numerous drums containing a mixture of hazardous and nonhazardous wastes into a vacuum tanker. Several drums contained neutralized mercaptan mixture (primarily water with lesser percentages of t-butyl mercaptan, isopropyl mercaptan, methanol, and sodium hypochlorite). During pumping, some of the material volatilized and vented from the tanker causing a vapor release. A strong odor was

noted and the tanker and drums were sealed and the drums were overpacked. The amount of vapor release was unknown. One employee from 560 Industrial Drive (American Printing) was hospitalized and numerous complaints of acute symptoms were reported by local businesses and residents. No wastes were discharged to the ground or waters of the Commonwealth.

**h. Lacquer Dust Fire Incident – June 12, 2001**

On June 12, 2001, CCI informed PADEP that a fire started in one of the nonhazardous mixing boxes during residual waste bulking operations. A moderate amount of smoke was generated and migrated north of the facility. Emergency response teams were activated and the facility was evacuated. Runoff from the firefighting operations was contained in the mixing box. CCI reported that no soil or groundwater was impacted.

**i. Release of Hydraulic Oil – February 8, 2002**

According to a release report submitted to PADEP by the facility, dated February 8, 2002, on February 5, 2002, Clean Venture was sitting down an empty rolloff box outside the facility's east gate. In the process of doing this, the hydraulic line on the tractor ruptured, releasing approximately 10 to 15 gallons of hydraulic fluid onto frozen ground. The affected area was covered in Speedi-dry absorbent and swept up. Subsequently, the soil in the area was removed to a depth of approximately 1 inch, and was processed with the residual waste at the facility.

**j. Sodium Hydroxide Spill – June 9, 2004**

During a PADEP inspection conducted on June 14, 2004, the inspector noted that a sodium hydroxide spill occurred at the facility on June 9, 2004 while a drum was being moved. A vapor cloud was created from the spill, and the cloud drifted into the worker break area. The offices in the building were evacuated, and the spill was contained and cleaned up.

**k. Sodium Hydroxide Vapor Release – January 3, 2005**

On January 3, 2005, an exothermic reaction occurred when sodium hydroxide pellets were added to the residual waste mixing pit that contained sawdust and some water/fluid. The reaction released water vapor in sufficiently large quantities that the doors to the processing facility were opened and the vapors were released into the atmosphere. To stop the reaction, CCI flooded the mixing pit and several rolloffs containing the material located in the building with water. The leachate was collected and handled appropriately. The local fire department received and responded to more than 25 calls regarding the odors generated from the facility. PADEP issued an NOV on January 17, 2005 and a CACP on July 5, 2005 for the incident.

**l. Acid Spill – September 27, 2005**

CCI notified PADEP on September 27, 2005 that several acids (hydrochloric, sulfuric, nitric, and some other miscellaneous acids), some containing RCRA metals (chromium, cadmium, lead, barium, and mercury), were mixed together causing a reaction. The spilled waste and the rinsewaters from wash-down were contained in the spill containment system and were recovered. Some nitrogen dioxide vapors were released during the reaction.

**m. Acid Spill – September 25, 2006**

CCI informed PADEP of a potential nuisance odor incident that occurred on September 25, 2006. When removing the lid from the drum of lab packed waste propanethiol (500 milliliters, 98 percent), a bottle of the material had leaked causing the odor. All material involved was recovered in liquid or solid form and overpacked.

**n. PADEP Incident Response – November 17, 2006**

PADEP responded to an incident notification. CCI was in the process of consolidating a small container of bromochlorodimethylhydantoin tablets (pool/hot tub chlorine tablets) into a single 55-gallon drum. The drum was approximately three quarters full of identical material from previous tablet consolidation. A short time after consolidation was completed, a chemical reaction took place, later determined to be caused by use of a contaminated lid. Flames, as well as a vapor, were emitted from the drum, identified by CCI to be chlorine gas. Absorbent material (dry sweep) was placed into the drum to smother the fire. The drum was later moved outside using a forklift. Additionally, water was placed into the drum by the Fire Department to quench the reaction. Emergency response teams were called in and evacuations were enforced in the surrounding area. The facility provided a report of the incident to PADEP on November 21, 2006. PADEP issued an NOV for the incident on November 29, 2006.

**o. Fire Incident – November 1, 2008**

On November 1, 2008, a 5-gallon pail containing aluminum powder was spilled into a 55-gallon drum approximately one-quarter full of solvent sludge. The two substances reacted causing a fire that was contained in the drum and was extinguished. PADEP issued CCI an NOV on December 2, 2008. The facility responded on December 16, 2008 requesting the NOV be rescinded, which was denied by PADEP on January 5, 2009.

**p. Spill Report – January 30, 2012**

On January 30, 2012, a 250-gallon plastic tote containing sodium hydroxide was punctured by the forks of a forklift releasing approximately 3 gallons of the material onto the concrete surface outside the lower warehouse. An employee moved the tote to the residual waste building for containment. The spilled material froze on contact with the concrete surface. Absorbents were applied.

**q. Spill Report – February, 1, 2012**

**Offsite Spill by AEG at the Intersection of Grandview Drive and Industrial Drive**

On February 1, 2012, PADEP Emergency Response received a call pertaining to a spill (an unknown amount of an unidentified chemical liquid) from a tractor trailer parked near the intersection of Grandview Drive and Industrial Drive, in Lewisberry, York County. Upon PADEP's arrival to the scene, they were met by the vice president of AEG Environmental (Westminster Maryland), the company that was transporting the chemical. AEG informed PADEP that the spilled chemical was unknown, but that their cleanup crew was in route and would determine what the chemical was. The driver of the truck had already placed absorbent material and booms around the spill for containment purposes. Upon arrival, the cleanup crew tested the fluid with a multichem chemical test strip which identified the



chemical as oil based and slightly acidic. A cleanup crew member then entered the trailer and found the leaking container. The cleanup crew member described the drum as follows: labeled as nonhazardous “oily debris”; the integrity of the bottom of the 55 gallon drum was compromised due to rust, which led to the leak; and the drum was virtually empty. According to AEG, oily debris should have been a “wet solid”, but the company where the container originated (Southern States, Frederick Maryland) had added additional oily liquid(s). AEG did not know how full the container originally was, but assumed that Southern States wouldn’t have called them to haul it away unless it was full. After identifying the liquid as being oil based, AEG began placing oil absorbent material on the spill and cleaning the inside of the trailer. A small patch of soil/stone were affected immediately beside the road. As a result, AEG excavated approximately 4 inches of contaminated soil along a thirty foot stretch of the road for disposal. The report indicated that the spill was confined to a relatively small area (approximately 15 feet by 40 feet, and the entire inside of the trailer), and waters of the Commonwealth were not impacted.

**r. Spill Report – September 4, 2012**

On September 4, 2012, a sulfuric acid solution came into contact with residual carbon in a funnel and caused a flash in the labpack processing area. The flash was extinguished resulting in dry powder agents on the floor.

**s. Unintentional Consolidating of Hazardous Waste in a RW Load - April 11, 2013**

The drum in question, CCI drum number 21304319, was received on February 27, 2013. It was profiled as nonhazardous Orange Cleaner. CCI quality control process revealed that the contents of this drum had a flash point of <140 °F, which exhibited the characteristic of ignitability, RCRA Waste code D001. On Wednesday evening April 10, 2013 this drum of RCRA waste code D001 was unintentionally mixed with an outbound residual waste load destined for Wheelabrator-Falls WTE plant in Morrisville, PA. The outbound load was sampled and QA/QC did not indicate that the load had a flash point <140°F. The load was delivered and disposed of at the WTE facility on Thursday morning April 11, 2013. The driver was interviewed upon return to CCI to determine the whereabouts of the load. It was documented that the load had not been stored, but dumped directly into the feed pit and processed in the WTE incinerator.

**6. RELEASES, SPILLS, & OTHER REPORTED INCIDENTS – 560 Industrial Drive Property**

No above ground spills were documented for the 560 Industrial Drive property. The UST release and trench/sink outfall are discussed in *Section B.2 - “SWMUs and/or AOCs – 560 Industrial Drive”* and *Section B.7 - “Investigations and Remedial Actions to Date”* of this EI report.

**7. INVESTIGATIONS AND REMEDIAL ACTION TO DATE**

**a. PADER Potential Hazardous Waste Site Identification and Preliminary Assessment – June 25, 1984**  
**550 Industrial Drive**

This assessment was completed by PADER for the IWR facility located at 550 Industrial Drive. The assessment included a site visit and completion of a USEPA Preliminary Assessment form. Included with the evaluation were copies of the facility’s Part A hazardous waste management permit application, three PADER hazardous waste inspections, volatile organic analysis of the facility’s well and the well located at the adjacent facility (Capital

Lubricants) and three volatile organics analyses of the Beman Manufacturing well. The following provides a summary of PADER's assessment of the facility.

- 1) The facility was utilized for storage of hazardous waste (mostly ignitable and toxic) in mound-buried tanks. The majority of the wastes stored on site were generated offsite.
- 2) Facility activities were identified as truck transportation, storage of hazardous wastes in five mound-buried tanks (total volume of 90,000 gallons) and rolloff containers, and chemical and physical treatment (solidification of sludges with lime treatment and storage in the rolloff containers). The facility had a garage for maintenance of the hazardous waste transportation vehicles.
- 3) Wastes types were identified as liquid tank bottoms (185 tons/year), halogenated and nonhalogenated solvents (104 tons/year), ignitable solids (7 tons/year), and various wastewaters (10 tons/year).
- 4) Potential hazards were listed as human health; worker injury; contamination of soil, groundwater, surface water, and air; spills/leaking containers/runoff/standing liquids; and incompatible wastes.
- 5) The facility was inspected routinely under the PADER Hazardous Waste Management Regulations. Although the PADER was having difficulty resolving concerns with the facility's Part B hazardous waste permit application (under review at the time), it appeared that the facility was operated in a manner that did not cause release of hazardous wastes to the environment. No past practice of onsite disposal or spills was known or reported to exist at the facility. Therefore, the facility was identified as low priority and no action was recommended.
- 6) An approximate number of 10 wells were identified within 0.25 miles of the facility. Six wells were noted on the topographic map (Appendix B: Figure 11). The PADER analyses for five of these wells were included in the report and are summarized below. It was noted that odor and taste problems were reported only for the three Beman Manufacturing wells, which the inspector attributed to activities conducted at Beman. Chlorinated volatile organics were detected in the water samples collected from the Beman well by PADER in 1981 and 1982. No volatile organics were detected in the IWR facility well or the adjacent Capital Lubricants facility well. For comparison purposes, the 1982 analytical results are compared to the 2015 PADEP Residential Statewide Health MSC<sub>GW</sub> in the spreadsheet below and exceedences are noted in bold font.

Constituent	Units	2015 Residential MSC <sub>GW</sub>	IWR	Capital Lubricants 569 Industrial Dr	Beman MFG Front Well	Beman MFG Utility sink Men's Room	Beman MFG Utility sink
Sample Date			4/22/81	5/28/81	5/18/81	11/7/82	11/7/82
Odor Problems			NO	NO	YES		
Taste Problems			NO	NO	YES		
VOAs detected			NO	NO	YES		
1,1-Dichloroethene	µg/L	7			NR	5	5
Trichloroethene	µg/L	5			NR	2	2
<b>Tetrachloroethene</b>	<b>µg/L</b>	<b>5</b>			<b>2</b>	<b>6</b>	<b>84</b>
1,2-Dichloroethene	µg/L	70			NR	1 (est)	1 (est)
1,1,1-Trichloroethane	µg/L	200			NR	69	57
Methylene Chloride	µg/L	5			2	NR	NR
Dibromochloromethane	µg/L	80			1	NR	NR

NR = Not Reported

**b. IWR Sampling of Background Soils (1986)**

**550 Industrial Drive**

**September 27, 1993 Final RFA Report- Attachment D.2**

*The Report on Site Soil Conditions* dated January 8, 1987 was prepared by IWR.

**January 1986:**

Soil samples were collected from each of the following areas on the IWR property in January 1986: the outlet of the pipe of the tank farm drainage system (associated with the Former Mounded Tanks, SWMU 18), the outlet structure of the stormwater impoundment (the Former Stormwater Retention Pond, SWMU 2), and the drainage swale just east of the tank farm. These three samples were composited into one sample. An additional composite sample was collected from three points in a low area outside the fenced area of the facility. The samples were collected for volatile organics, pesticides/herbicides, oil/grease, arsenic and the specific heavy metals of chromium and lead. The volatile organics, pesticides/herbicides were nondetect. The heavy metal concentrations were within the typical range of metals in soils. Elevated oil/grease levels were detected.

**April 1986:**

Additional background soil samples were collected on April 22, 1986 from soils excavated south of the truck garage (Storage Area C, SWMU 7). When these samples (which were not described as composite samples in the available file material) were analyzed for the same parameters as the January 1986 background soil samples, elevated levels of lead were detected (504 mg/kg), outside the normal range. As a result, USEPA toxicity testing was requested and the analysis indicated that the soil had no leachable hazardous levels of EP toxic metals.

**November 1986:**

Information pertaining to samples collected in November 1986 due to the UST removal of Mounded Tanks #1, #2 #3, #4, and #8 (SWMU 18) was included in this correspondence, and a summary is included below from the actual report.

**c. Sampling of Mounded Tanks during Partial Closure (November 1986)**  
**550 Industrial Drive**  
**September 27, 1993 Final RFA, Attachments D.1 and D.2**

On July 1, 1986, IWR submitted a revised closure plan to include additional analytes for analysis of rinsewater generated during partial closure of the tanks located on the 550 Industrial Drive property. The tanks were to be replaced with ASTs in individual steel containment. On July 22, 1986, PADEP issued a public notice that IWR had submitted notification to close and remove existing USTs; and on August 27, 1986, PADEP approved the revised plan.

IWR removed the hazardous waste Mounded Tanks (SWMU 18) in November 1986. Analytical results of two composite soil samples collected directly from beneath the excavated tanks (one representing Tanks #1, #2 and #8 and one representing Tanks #3 and #4) were provided to PADEP as part of the facility's partial closure certification. A complete analysis for volatile organics, pH, oil/grease, solvents scan, EP Toxicity (metals), cyanide and phenols was conducted. No volatile organics or petroleum distillates were detected above detection limits. These samples also did not exceed toxicity levels. Oil/grease ranged from 308 mg/kg (Tank #3 and #4 composite) to 1728 mg/kg (Tank #1, #2 and #8 composite). Although soil surrounding Tank #8 was analyzed for metals, one sample (Tank #8, Manway – Spill Area, Soil) was apparently not analyzed for metals. The "Tank #8, Manway – Spill Area, Soil" had been segregated and hand excavated into two 55 gallon drums. This was done because the field sampler suspected that during the use of Tank #8, a small amount of liquid may have overflowed from the Manway and seeped into the adjacent soils. This sample was analyzed for volatile organics and a solvent scan and results were nondetect except for trace petroleum distillates.

WLSI Field Sampling Report dated November 18, 1996 indicated that an organic vapor analyzer (OVA) was used to test for the presence of volatiles from the ground surface in the vicinity of Tanks #1, #2, and #8 during the excavation activities. The instrument was calibrated before, during and after sampling. Sampling occurred every two feet around each tank and in numerous areas over an excavated pile of soil from the Tank #8 area. The OVA instrument readings did not exceed 1 parts per million (ppm).

VOA analyses by PADEP of tank final rinsate samples collected on November 26, 1986 from the third washing of each tank (Tank #1, #2, #3, #4 and #8) detected organic constituents as noted below. None of these residual solvents found in the final rinse waters from the interior of the tanks had been found in the soil samples discussed above (including Tetrachloroethene). The only possible exception would be the two drums of soil removed/drummed from the Tank #8 Manway spill area which detected petroleum distillates, however no quantification was provided, as noted below.

PADEP's Tank Rinsate Sample Detections - 11/26/1986	
Tank #1	Ethylbenzene - 1 µg/L
	Toluene - 1 µg/L
Tank #2	Acetone – 500 µg/L
	Toluene – 4 µg/L
Tank #3	Benzene – 18 µg/L
	1,4-Dioxane – trace
	Tetrachloroethylene – 35 µg/L
Tank #4	VOA – no detection
Tank #8	Alkanes and cyclic hydrocarbons were detected. No quantification was provided.

On December 9, 1986, PADEP transmitted analytical results for the tank rinsewater samples they collected on November 26, 1986 to IWR. IWR submitted a letter to PADEP on December 26, 1986 certifying that the closure of the tanks was substantially completed as per the approved plan with the exception of the grading/seeding, final disposition of the tanks, and installation of the ASTs. The letter stated that the soil analyses indicated no pollution of the soil beneath the tanks and only trace organics in the final rinsewater from the interior of the tanks. IWR requested PADEP's concurrence with the closure. C.S. Davidson, Inc., consulting engineer for the facility, provided certification of the UST closure per the approved plan to IWR on December 29, 1986. By letter dated March 6, 1987, PADEP approved the laboratory analysis and certified that the closure plan was implemented as proposed. A Notice of Certification would be issued when the outstanding items were completed.

**d. Encotec Preliminary Site Assessment Sampling Results (August, 1987)**

**550 Industrial Drive**

**September 27, 1993 Final RFA, Attachment D.3**

Four locations were sampled during a preliminary site assessment of the 550 Industrial Drive IWR property by Encotec in August 1987 as noted on Appendix B: Figure 20. The locations were selected based on the perceived direction of surface drainage and land uses. Split-spoon soil samples from predetermined depths were collected from each of these borings. The report only included soil analytical results for Borehole #3. As a result, it is assumed that the soils for the other three borehole locations were not analyzed for as a result of nondetect and/or no significant readings noted on the Photovac TIP photoionization (PI) meter during the split-spoon sampling event. PI meter readings for Borehole #3 were documented at 1 - 3 (units were not included in the report, but assumed to be ppm). The Borehole #3 soil samples were analyzed for volatiles, semi-volatiles, pesticides/PCBs, and priority pollutant metals, and were determined to be at or below detection limits. As a result of soils from Borehole #3 producing positive PI meter readings, individual volatile organic soil samples were collected/analyzed from the 1 foot, 4.5 - 5 feet, and 8.5 - 10 feet intervals in an attempt to identify the source of the low PI readings. Methylene Chloride (0.034 B mg/kg) was the only volatile organic compound documented at the Borehole #3 soil sample location (8.5 – 10 feet interval); however this constituent was also noted in the field blank at 0.004BJ mg/kg. Analyses of the priority pollutant metal composite soil sample from Borehole #3, indicated low levels (all below the current PADEP Act 2 Residential/Nonresidential MSC<sub>SOIL</sub>) as follows: 0.68 milligrams per kilogram (mg/kg) arsenic; 7.4 mg/kg chromium; 0.42 mg/kg copper; 6.9 mg/kg lead; 20 mg/kg nickel; 2.9 mg/kg thallium; and 51 mg/kg zinc. Analyses of the semi-volatiles and pesticides/PCBs composite soil sample from Borehole #3 were nondetect.

Groundwater samples were also collected from each of the four borings and were analyzed for volatiles, semi-volatiles, pesticides/PCBs, and priority pollutant metals. Analytical results were nondetect except for the constituents in the table noted below. Lead and Thallium were detected above the current PADEP Act 2 Residential/Nonresidential MSC<sub>GW</sub>. Methylene Chloride was also detected in exceedence of the 5 µg/L PADEP Act 2 Residential/Nonresidential MSC<sub>GW</sub>; however it was also documented in the Method Blank (4 B J µg/L).

Encotec Investigation - 550 Industrial Drive – Groundwater Sample Results – August 1987						
Constituent	Units	2015 Residential MSC <sub>GW</sub>	Borehole #1	Borehole #2	Borehole #3	Borehole #4
Sample Date			8/25/1987	8/26/1987	8/26/1987	8/27/1987
WBZ(s)	FT BGS		28, 40	13, 19	36	21
Sample Depth	FT BGS		40	19	36	22
Total Depth (Auger advancement after sampling)	FT BGS		57	20	No info	25, but backed up to 22 due to no additional GW
Benzene	µg/L	5	<5	<5	1 J	<5
Butyl Benzyl Phthalate	µg/L	350	2 J	<10	<10	1 J
Di-n-butyl Phthalate	µg/L	3700	1 J	<10	<10	<10
1,1-Dichloroethane	µg/L	31	<5	<5	1 J	<5
<b>Methylene Chloride</b>	<b>µg/L</b>	<b>5</b>	<b>5 B</b>	<b>5 B J</b>	<b>5 B J</b>	<b>27 B</b>
Toluene	µg/L	1000	<5	5	3 J	<5
1,1,1-Trichloroethane	µg/L	200	<5	<5	2 J	<5
Dissolved Chromium	µg/L	100	<30	40	<30	<30
<b>Dissolved Lead</b>	<b>µg/L</b>	<b>5</b>	<20	<b>70</b>	<b>20</b>	<20
Dissolved Nickel	µg/L	100	50	<40	<40	<40
<b>Dissolved Thallium</b>	<b>µg/L</b>	<b>2</b>	<50	<b>70</b>	<50	<50
Dissolved Zinc	µg/L	2000	28	<20	<20	<20

J – Present at concentration less than the detection limit

B – Present in Method Blank

e. **Disposal Safety, Inc. Environmental Assessment of the IWR facility (May 25, 1989)**  
**550 Industrial Drive**  
**September 27, 1993 Final RFA, Attachment D.5**

The report was limited to earlier investigational data collected between 1986 and 1989 and did not include any newly collected soil/groundwater/vapor investigation sampling. It was mentioned in the report that one should keep in mind the technical difficulty of assessing with any degree of certainty the extent of hazardous waste contamination due to the author's unfamiliarity with the professional qualifications of companies who prepared the earlier reports. The report mentioned that groundwater samples collected from the borings contained *“benzene, toluene, dichloroethane, and trichloroethane at levels.....frequently encountered at industrial, urban, and suburban locations. We would not interpret such measurements as evidence of a serious contamination problem.”* The constituents documented by Encotec in 1987 are summarized in the table above and exceedences of the present-day PADEP Act 2 Residential/Nonresidential MSC<sub>GW</sub> are highlighted in bold font.

**f. Benatec Assoc. Soil Sampling Report - IWR & Keller Properties (December 1988)**  
**550 and 560 Industrial Drive**  
**September 27, 1993 Final RFA, Attachment D.4**

According to the Benatec Associates correspondence, a series of soil samples were collected from the IWR and Keller properties from December 14-15, 1988. Groundwater samples were not collected during this sampling event.

**IWR – 550 Industrial Drive:**

Four soil borings were drilled to refusal downslope of the former IWR building along a general line averaging 125 feet from the southern wall intercepted by lines 70 & 120 ft from the western fenceline and 20 & 100 ft from the eastern fenceline. A map of the boring locations was not included with the available report. Soil from the four borings were combined as one composite soil sample and analyzed for USEPA Priority Pollutants (volatile and semi-volatile organics, dioxin, pesticides, PCBs, extractable organics, and heavy metals). The only USEPA Priority Pollutant detections documented in the composite soil sample were 3.67 mg/kg Bis(2-ethylhexyl)phthalate, 3 mg/kg arsenic, 13 mg/kg chromium, 10 mg/kg copper, 7 mg/kg lead, 7 mg/kg nickel, and 19 mg/kg zinc. All detected concentrations were below the current PADEP Act 2 Residential/Nonresidential MSC<sub>SOIL</sub> established for each constituent.

**Keller Property – 560 Industrial Drive:**

Three soil samples were also collected downgradient of the bituminous parking apron on the Keller property. The sample locations were selected on the basis of field observations and engineering judgment to determine the most likely flow pattern a fuel spill would take if one should occur. The locations were noted as: 1) at the pavement's eastern edge and downslope from the existing underground fuel tank; 2) at the pavement's eastern edge and 175 feet from Industrial Drive; and 3) at the pavement's southern edge and midway to the Keller building. The borings were drilled to four feet or refusal and analyzed for petroleum hydrocarbons and total organic halogen. The analyses revealed petroleum hydrocarbons (as received and/or dry) ranging from 40 – 80 mg/kg and nondetectable total organic halides (<100 mg/kg).

**g. Benatec Associates September 1989 Soil Sampling Report**  
**550 Industrial Drive**  
**September 27, 1993 Final RFA, Attachment D.7**

Additional soil samples within the vicinity of the new Remtech expansion building.

REMTECH analyzed soils in the vicinity of the proposed New Hazardous Waste Storage Area prior to construction of the building expansion. These samples did not contain detectable levels of PCBs, dioxin, acid extractable priority pollutants, or volatile organic compounds; however, priority pollutant metals were detected. Therefore at the request of PADEP, REMTECH collected additional soil samples in August 1989 at three random locations in the vicinity of the expansion for the New Hazardous Waste Storage Area (SWMU 4). A soil sample location map was not included in the Benatec report. Bis(2-ethylhexyl)phthalate (75 – 144 µg/kg), barium (50 – 75 mg/kg), chromium (7 – 11 mg/kg), copper (9 – 23 mg/kg), nickel (12 – 16 mg/kg), and zinc (13 – 15 mg/kg) were detected, all below the current PADEP Act 2 Residential/Nonresidential MSC<sub>SOIL</sub>, except for Bis(2-ethylhexyl)phthalate (PADEP Residential/Nonresidential Act 2 MSC<sub>SOIL</sub> is 130 mg/kg). Bis(2-ethylhexyl)phthalate has been detected at hazardous waste facilities but also has been identified as a common laboratory contaminant.

**h. REMTECH Sampling during UST Removals (1989):**

**1) 550 Industrial Drive**

Soil samples were collected before and during removal of three product USTs (one 10,000-gallon diesel fuel, one 10,000-gallon gasoline, and one 10,000-gallon No. 2 fuel oil) from the 550 Industrial Drive property. No evidence of leakage was noted during the removal of the USTs. Post-excavation composite samples were collected. Laboratory analytical data for this area was included in the June 1989 Tank Technologies, Inc. (TTI) report summarized later in this EI report under *Section B.7.1 - Closure Report for REMTECH Environmental (550 Industrial Drive) – August 5, 1993.*

**2) 560 Industrial Drive**

**September 27, 1993 Final RFA, Attachment D.6**

Remtech correspondence to PADEP concerning 500-gallon UST Excavation, Keller Property

A one page REMTECH letter dated June 15, 1989 documented that during removal of a 500-gallon fuel storage tank at the Keller Building in June 1989, the UST tank was discovered to have "corroded severely and was found to have leaked diesel fuel into the surrounding soils." Approximately ten cubic yards of contaminated soils were excavated to bedrock/refusal and shipped offsite for incineration, but no sampling was apparently conducted in 1989 to determine if all contaminated soils had been removed. The area was later investigated in 1993 (see information later in this EI report under *Section B.7.1 - Closure Report for REMTECH Environmental (560 Industrial Drive) – August 5, 1993.*

**i. Stormwater Retention Pond Sampling (August, 1990):**

**550 Industrial Drive**

**September 27, 1993 Final RFA, Attachment D.8**

*According to the REMTECH Spill Report*, on August 9, 1990, approximately 200 gallons of D008 (Lead) hazardous waste liquid spilled into the Outdoor Containment Area (SWMU 20) during unloading operations. An estimated 100 gallons of waste subsequently flowed through an open valve into the Existing Stormwater Retention Pond (SWMU 1). The material was reportedly stratified in the pond and easily identified due to its black coloration. All obvious waste material was pumped out of the pond and cleaned from the valves and pipes leading to the unit; these wastes were reportedly disposed of at an offsite disposal facility. The remaining stormwater and retention pond sediment did not exceed toxicity characteristic regulatory levels. As a result of this spill, REMTECH planned to install an oil/water separator in the Manway located in-between the stormwater collection system and the pond in order to contain future spills before flowing into the lined retention basin.

**j. FINAL RCRA FACILITY ASSESSMENT (RFA) - REMTECH ENVIRONMENTAL**

**September 27, 1993 Final RFA Report by A.T. Kearney, Inc.**

**VSI conducted on February 25, 1992**

**550 and 560 Industrial Drive**

ATK prepared the USEPA *Final RCRA Facility Assessment (RFA)* in September 1993 for the REMTECH facility. The RFA included both the 550 and 560 Industrial Drive properties. RFA reports may include a preliminary review (PR) of available relevant documents, a visual site inspection (VSI), and, if appropriate, a sampling visit (SV). The *September 1993 Final RFA report* provided a discussion of the environmental setting (geology/hydrogeology,



topography/surface drainage/soils, surrounding land use, and potential receptors) surrounding the facility; a description of the facility's ownership, operational, and permitting history (included a summary of incidents/inspections for IWR and REMTECH); discussion of soil and groundwater investigations that were completed at the facility; identification of SWMUs and areas of concern (AOCs) identified during the document review and the VSI; and a discussion of release pathways and suggested further actions. Included in the report were the field notes for the VSI conducted on February 25, 1992; photographs of the SWMUs and AOCs; numerous site investigation reports and analytical results for sampling activities that were previously conducted at the facility. The environmental investigative reports that were included in the report are noted below along with the RFA Attachment ID #. Brief summaries of the following reports/investigations are included within *Section B – Description of all SWMUs, AOCs, and other Miscellaneous Areas* of this EI report.

- 1993 FINAL RFA Attachment D.1  
550 Industrial Drive  
Analytical Results from Sampling during the Partial Closure of the Mounded Tanks (SWMU 18), November 1986 Samples
- 1993 FINAL RFA Attachment D.2  
550 Industrial Drive  
IWR Report on Site Soil Conditions - January, April and November 1986 Samples
- 1993 FINAL RFA Attachment D.3  
550 Industrial Drive  
Encotec Environmental Assessment of IWR Facility, August 1987 Samples
- 1993 FINAL RFA Attachment D.4  
550 and 560 Industrial Drive  
Benatec Associates, December 1988 Soil Sampling Results
- 1993 FINAL RFA Attachment D.5  
550 Industrial Drive  
Disposal Safety, Inc. Environmental Assessment of the IWR Facility (May 25, 1989)  
Brief summary of samples collected at the IWR facility from 1986 - 1989
- 1993 FINAL RFA Attachment D.6  
560 Industrial Drive  
REMTECH letter to PADEP concerning 500-Gallon UST Excavation, Keller Property (June 15, 1989)
- 1993 FINAL RFA Attachment D.7  
550 Industrial Drive  
Benatec Associates, September 1989 Soil Sampling Report  
Additional soil samples within vicinity of the new Remtech expansion building.
- 1993 FINAL RFA Attachment D.8  
550 Industrial Drive  
REMTECH Spill Report, August 1990  
The August 9, 1990 Lead-contaminated hazardous waste spill of ~200 gallons into the stormwater drainage system and the stormwater retention pond

The following documentation was also included in the September 1993 Final RFA:

Facility History: The facility has been operated as a storage and treatment facility for hazardous and residual waste, and provided contracting, transportation and spill response services to industry and government from 1979 when the facility was operated as IWR. In 1989, REMTECH occupied the IWR and Keller properties for its operation. The facility primarily served small-to-medium quantity generators. Waste management activities at the facility were identified as bulking of liquid and solid wastes, treatment-stabilization or solidification of nonhazardous wet and solid waste, consolidation of hazardous waste fuel-candidate waste streams, lab pack repackaging, and storage of the aforementioned wastes. No disposal activities were conducted at the facility.

Environmental Setting: The facility is located in the Triassic lowlands section of the Piedmont Province of the Appalachian Highlands, which is characterized by undulating hills and low relief. Topographic relief at the site is approximately 500 feet above mean sea level (MSL). Surface drainage at the facility flows east and northeast over an open field and wetland area into an intermittent stream which empties into a tributary of Fishing Creek. The creek continues to flow eastward until it discharges into the Susquehanna River, located approximately five miles east of the facility. The facility is not located within a 100-year floodplain. Soils in the Triassic lowlands section are characterized as thin to moderately thick and well suited for agriculture and industrial development.

Geology and Hydrogeology: The facility is underlain by the Gettysburg Formation, which is composed of deeply red upper Triassic Gettysburg shale, siltstone and sandstone. The bedrock of this unit is highly fractured and easily weathered. A well log from a water well drilled on the 550 Industrial Drive property in 1979 indicated that the site is underlain by intermittent beds of sand, clay, and shale extending to 47 feet below ground surface (FT BGS). A shale bedrock layer, which extends from 47 to 100 FT BGS, overlies a sandstone layer approximately 50 feet thick. Undefined bedrock extends to a total depth (TD) of 200 feet. Wells in the Gettysburg Formation typically yield good quality waters in quantities suitable for domestic use. Hydraulic conductivities range from  $10^{-3}$  to  $10^{-4}$  centimeters per second. Groundwater has been found between 15 to 20 FT BGS in the area of the site. Based upon the topography of the region, groundwater under the site was presumed to flow southwest towards Fishing Creek. Based upon the 1979 well log for the water well installed onsite, two water bearing zones were identified at 123 and 179 FT BGS.

Receptors: The nearest residence was located 0.4 miles south of the facility. The facility employed approximately 40 people with an estimated ten employees routinely working with wastes managed at the facility. The facility was originally serviced by an onsite drinking water well (approximately 200 feet deep); it is currently supplied by public drinking water. Sanitary sewage at both the hazardous waste facility and the adjacent Keller property was managed by an onsite septic system. REMTECH representatives stated that the adjacent Keller property had always been serviced by public drinking water. Eight public water supply wells were identified within a one mile radius of the facility. In accordance with Pennsylvania law (Act 108) the facility was conducting quarterly monitoring at 44 of 88 private drinking water wells within a 0.5 mile radius. The results were provided to PADEP on a quarterly basis. No violations or sampling parameters were noted.

Wetlands were not identified on site during a Preliminary Wetlands Assessment conducted for REMTECH by RTES in 1991. However, one wetland area was identified within 300 feet

of the facility's eastern property boundary that received discharge from the facility's stormwater collection system. The facility indicated that this area was a man-made area that spanned a 10-foot-diameter area around the outfall pipe. This wetland area did not qualify as an important wetland as rated by PADEP regulatory criteria based on the Preliminary Assessment. The facility was not located in the vicinity of a wild and scenic river; a national, state or municipal park; or an area inhabited by a federally listed endangered species; one Pennsylvania endangered species (the bog turtle) had been recorded near the facility location.

The facility is located within the Fishing Creek watershed which flows to the east approximately five miles to the Susquehanna River, which was used as a drinking water source for Harrisburg and York, Pennsylvania.

Releases: Numerous releases of hazardous constituents to the soils at the facility were documented starting in the early 1980s. A PADEP inspection conducted on December 8, 1983 noted numerous small spills of various materials including hazardous waste oils and apparent sewage sludge around the facility. A ram for a rolloff was observed in the Unlined Container Storage Area (SWMU 3) during a June 27, 1984 PADEP inspection. The ram reportedly contained a white powdery and black oil material. A small drum (reportedly containing motor preserver) was also observed by the PADEP inspector leaking onto the surrounding soils near the garage area. A hydrochloric acid spill occurred on a crushed limestone area within the Unlined Container Storage Area (SWMU 3) on July 23, 1986. The area was excavated to the subsoil base and treated by spreading lime and sodium bicarbonate over the gravel surface. PADEP was notified and approved the in-situ treatment.

SWMUs and AOCs: Storage of wastes in mound-buried tanks, as well as in drums staged directly on bare soils and on paved areas proximate to soils was historically the predominant waste management practice at the facility during IWR's ownership. These activities ceased when the mounded tanks underwent partial closure in 1986 and the property was sold to REMTECH in 1989. A total of 24 SWMUs and four AOCs were identified. Twenty (20) SWMUs and three AOCs were identified at the 550 Industrial Drive facility. Four SWMUs and one AOC were identified at the 560 Industrial Drive facility (Keller Building). A brief summary of each SWMU and AOC was provided earlier in *Sections B.1, B.2, B.3, and B.4* of this EI report.

Conclusions: The following conclusions were presented in the *September 1993 Final RFA Report* based on the PR and the February 25, 1992 VSI:

**Groundwater:** Past waste management practices at the facility have led to releases of hazardous constituents to the soils and possibly the groundwater at the facility. Specifically, the Unlined Container Storage Areas (SWMU 3), the Former Stormwater Retention Pond (SWMU 2), the Former USTs (AOC A), the Boiler UST (AOC B), and the Keller USTs (AOC D) were identified as units where evidence suggested impact to soils and possibly groundwater may have been impacted. The potential for additional contaminant releases to groundwater was considered high due to the shallow water table which was overlain by highly permeable materials (gravel).

**Soil:** Past waste management practices at the facility led to releases of hazardous constituents to the soils. Prior to the installation of the Outdoor Containment Area (SWMU 20), limited or no secondary containment features were associated with the SWMUs located at the facility. There were numerous documented releases to the soils, specifically at the Unlined Container Storage Areas (SWMU 3), the Former USTs (AOC

A), the Boiler UST (AOC B), and the Keller USTs (AOC D). Sampling conducted at the facility consisted of only composite soil samples of an insufficient number to justify that no impact to the soils at the facility had occurred.

**Surface Waters:** The potential for release to surface waters was considered medium due to the fact that both the Existing and Former Stormwater Retention Ponds (SWMUs 1 and 2), discharged to an unnamed drainage swale along the eastern portion of the facility property. In addition, the Trench System (SWMU 22) at the residual waste facility (Keller Building) also discharged to the unlined drainage swale that discharged into an intermittent stream, which flows into Fishing Creek. The facility reported that since 1989, all stormwater contained in the Pond was analyzed prior to release. However, prior to 1989, water in the pond was only visually inspected prior to release.

**Air:** The potential for release of hazardous constituents to the air was considered low since the facility operations consisted of the storage of hazardous and nonhazardous wastes, and the majority of the constituents of concern were managed in tanks or drums located inside buildings.

**Subsurface Gas:** The facility stored petroleum hydrocarbon products such as No. 2 fuel oil, gasoline and diesel fuels, as well as waste oils in USTs. These materials in subsurface conditions have the potential to form subsurface gas. There was a documented release of petroleum hydrocarbons from the Keller USTs (AOC D) to the soils at the facility. Due to the nature of the wastes, and the presence of the wastes in the soils, the potential for subsurface gas generation was considered moderate.

Further actions were suggested for individual units, including confirmatory sampling for those units that were unlined land-based units that managed hazardous wastes, hazardous constituents, or for those units where a high potential for release was expected to exist.

The *September 1993 Final RFA Report* noted that the facility was located on 10 acres and operated from one large building. The nearest residence was located approximately 0.4 mile south of the facility. The facility was bordered by the Capital Parts Washer facility to the west, a Roadway truck terminal to the west and south, a fire escape ladder manufacturer to the east and the Speers manufacturing warehouse to the north.

The 550 Industrial Drive facility was originally serviced by an onsite drinking water well (approximately 200 feet deep), but REMTECH was currently supplied by city drinking water. Sanitary sewage at both the hazardous waste facility and the adjacent Keller property was managed by an onsite septic system. According to REMTECH, the adjacent Keller property had always been serviced by city drinking water. There were eight public water supply wells within a one mile radius of the site. In 1993, REMTECH was conducting Act 108 quarterly groundwater monitoring at 44 of 88 private drinking water sources within a 0.5 mile radius of the site.

There were no public drinking water supplies in the immediate vicinity of the facility. REMTECH purchased the IWR facility in 1989 and since then, groundwater contamination has been prevented by appropriate design and operating practices such as: 1) the entire working area of the facility was covered in concrete which was further contained within suitable diking; 2) all stormwater runoff from the facility was collected in an HDPE-lined stormwater impoundment (500,000-gallon capacity); 3) the drum storage area contained several segregated areas with individual secondary containment; 4) all tanks for the storage of

hazardous wastes were newly installed as of August 1990, with proper inside coating; 5) secondary containments surrounded all tank storage areas; 6) the facility conducted a regular monitoring and inspection program.

The RCRA prioritization system scoring calculation for the REMTECH facility was done in accordance with the National Corrective Action Prioritization System, and the migration score of 17.63 indicated REMTECH was a low priority facility in the USEPA RCRA Program. In addition, when the USEPA inspected the facility's operating process and waste management practices during the site visit of November 29, 1993, the USEPA came to the conclusion that there was no need for RCRA Corrective Actions on the REMTECH facility at the time. On April 21, 1994, the USEPA issued a letter to the facility indicating that the REMTECH facility was a low priority facility.

**k. Phase 1 Environmental Site Assessment – June 29, 1993**  
**560 Industrial Drive – Keller Building**

Tethys Consultants, Inc. (TCI) completed a Phase 1 Environmental Assessment (Phase 1) in conjunction with the pending sale of the 560 Industrial Drive property (Keller Building). A site map (Appendix B: Figure 15) was included in the Phase 1 report along with the following summarized information.

- The 560 Industrial Drive property consisted of 2.1 acres on which a 25,000-square-foot office/warehouse structure was situated. The building was constructed in 1975 and was leased by Keller Industries, Inc. who used the building as a warehouse/showroom for building and office supplies. REMTECH purchased the property in 1989 and used it for offices, general storage, and company vehicle maintenance. In 1991, PADEP authorized REMTECH to store residual wastes in the Keller Building. The drummed wastes were stored in the east-central portion of the building and included asbestos-containing materials, aqueous emulsion of acrylic latex, nonregulated solid wastes, liquids, sludges, resins, waste oils, and contaminated groundwater. Drums of waste motor oil and other waste automotive fluids were stored on the western wall of the warehouse. Tarped rolloff containers were stored on the parking area to the east of the building.
- Three CERCLIS sites were located within a one-mile radius of the Keller Building: HMW Enterprises, Inc., 0.3 mile to the northeast; Capital Parts Washer, 300 feet to the west; and REMTECH's hazardous waste transfer and storage facility, adjacent to the east and south. The HMW site was hydraulically downgradient from the Keller Building and was not expected to be a significant threat. The Capital Parts Washer site was hydraulically upgradient and was considered a potential source of environmental impairment. Low levels of VOCs had been documented in the soils and groundwater at the Capital Parts Washer site. It was noted that PADEP had not required any remedial activity. The adjacent REMTECH facility was hydraulically downgradient from the Keller Building and had been a permitted hazardous waste treatment and storage facility since 1979. There was a documented history of regulatory noncompliance for recordkeeping and administrative issues, and releases of hazardous materials at this facility under IWR's ownership. Contacts with PADEP representatives familiar with the REMTECH and Capital Parts Washer facilities indicated that both facilities were entirely self-contained and that a release of materials would be contained on site and would not contaminate soil or groundwater either on or in the vicinity of the releases. Therefore, the potential

of any future releases of contaminants on either site negatively impacting upon the Keller Building property was small.

- Low levels of VOCS are present in groundwater systems underlying parts of the industrial park. A quarterly groundwater sampling program of 45 nearby private wells initiated by REMTECH in early 1991, to date, had discovered no levels of organic solvents in those wells. TCI stated that a limited groundwater assessment would be necessary to determine whether elevated levels of VOCS were present in the groundwater beneath the Keller Building.
- Three USTs containing petroleum products were reportedly removed east of the Keller Building in 1989. There was no UST closure report in the records. A 500-gallon heating fuel UST was known to have leaked and contaminated surrounding soils. No documentation confirming the removal and correct disposal of the resultant contaminated soils was found. TCI stated that the potential for soils contaminated by the former USTs remained on site.
- A floor drain and sink were present in the vehicle maintenance area of the building that discharged wastewater directly onto the ground at the rear of the building. There was a high potential that nearby soils had been contaminated with wastewater containing petroleum hydrocarbons.
- Materials and residual waste management at the Keller Building appeared to be adequate at the time of the site inspection. There was no evidence of releases of nonhazardous wastes authorized to be stored on site.
- TCI recommended that the soils in the areas of the former USTs and the vehicle maintenance area floor drain and sink outfalls be sampled and analyzed for petroleum hydrocarbon contamination. Also, TCI recommended the floor drain and sink outfalls should be plugged to preclude the possibility of further contamination.

**I. Closure Report for REMTECH Environmental – August 5, 1993 – (Phase 2)**  
**560 Industrial Drive**

**Note:** The report also included information regarding the 550 Industrial Drive property.

Included in the Phase 2 report was the April 21, 1989 Tank Technologies, Inc. (TTI) notification letter submitted to the State Police Fire Marshall pertaining to the removal of several USTs at both REMTECH's 550 and 560 Industrial Drive properties. The following USTs were scheduled to be removed:

- **550 Industrial Drive** – three 10,000-gallon diesel fuel USTs and one 10,000-gallon No. 2 fuel oil UST.
- **560 Industrial Drive** (Keller Building) – one 10,000-gallon diesel fuel UST and one No. 2 fuel oil UST of unknown size.

The June 5, 1989 TTI *Tank Removal Final Report*, submitted to REMTECH, was also included in the Phase 2 report and documented the following:

- **550 Industrial Drive:** On May 22, 1989, TTI removed two 10,000-gallon gasoline USTs and one 10,000-gallon diesel fuel UST (note the discrepancy in the number/contents of tanks removed versus that reported to the State Police Fire Marshall). No visible holes were detected in the tanks. TTI collected composite soil samples from the excavations, which were analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX). Additional soil samples were field-screened using a PID. The samples were warmed to insure volatilization and the headspace was monitored. All samples exhibited background levels on the HNU. The field data indicated that no soil contamination had resulted from the USTs and the excavated soils were used to backfill the excavation. Field and laboratory analytical data could not be found in the files for verification purposes.

It was also noted that an out-of-service 1,000-gallon grease trap (SWMU 17) that separated the excavation was also removed. During its removal, a small amount of liquid from the grease trap escaped and collected below the grease trap. All soils visibly saturated from the release were removed and stockpiled for removal by REMTECH.

The 3-10,000 gallon tanks were cleaned in accordance to API 2015. 350 gallons of residual and wash water were removed for disposal and manifested under A.B.C Tank Company's DOT numbers. After cleaning, the tanks were removed and transported to Abrams Steel Scrapyard.

- **560 Industrial Drive (Keller Building):** On May 212, 1989, TTI began removing one 10,000-gallon diesel UST and one 2,000-gallon No. 2 fuel oil UST. The removal of the UST was halted by REMTECH on May 23, 1989. REMTECH informed PADEP by letter dated June 15, 1989 that during excavation of a fuel storage tank, the 500-gallon UST had severely corroded and diesel fuel had leaked to the surrounding soil. The UST was removed and approximately 10 cubic yards of contaminated soil was excavated to bedrock. It was noted in the *1993 Closure Report* that neither a supporting closure report nor analytical data had been located to document the 1989 tank removals at the 560 Industrial Drive property, but it indicated that the tank removal was done prior to regulations requiring tank registration or closure reports. Sampling of this area was subsequently conducted in 1993 due to the request of a potential buyer for the property and is summarized below.

In June 1993, TCI completed the Phase 1 in conjunction with the pending sale of the 560 Industrial Drive property. The building was utilized by REMTECH at this time as a repair shop for the transportation fleet, a storage area for various field service equipment (pumps, hoses, spill cleanup supplies), and as a residual waste storage facility. On June 30, 1993, the potential buyer of the 560 Industrial Drive building notified REMTECH that they would require a Phase 2 to confirm that the tank excavation was clean according to existing PADER regulations. TCI recommended the soils in the area of the former 560 Industrial Drive USTs and the vehicle maintenance area floor drain and sink outfalls be sampled and analyzed for petroleum hydrocarbons.

Pursuant to TCI's recommendations, REMTECH initiated the Phase 2 soil boring program on July 8, 1993 (see Appendix B: Figure 16) at the reported location of the former USTs and encountered petroleum contaminated soils. A soil sample (#9) was also obtained from the floor and sink outfall areas located at the southern end of the 560 Industrial Drive building and the analytical results exhibited no contamination. REMTECH contracted TCI to provide

limited consulting services for the site remediation, which included the following:

- Removal of contaminated soils from the former UST area: Approximately 42 tons of contaminated soil was removed from the excavation, which measured 23.5 feet long, 11.5 feet wide, and 10.5 feet deep (2.5 feet into the shale bedrock). Clean excavated soil and 40 tons of 2A modified stone were used to backfill the excavation.
- Collection of three confirmatory soil samples from the excavation sidewalls and analysis of the samples for total petroleum hydrocarbons (TPH) and BTEX: All three soil samples had nondetectable levels for all parameters.
- A sample was also collected of the water that infiltrated the excavation, which was analyzed for TPH and BTEX. Low levels of TPH (9.4 ppm), ethylbenzene (0.039 ppm), and xylenes (0.115 ppm) were detected in the water sample. Therefore, two 35-foot deep monitoring wells were installed (one in the excavation and one downgradient) in July 1993, and two rounds of groundwater samples were collected (July and August 1993) and analyzed for TPH and BTEX. TPH and BTEX compounds were not detected in the groundwater samples.
- A private water well was documented on the west side of the 560 Industrial Drive building in the August 5, 1993 Phase 2 Report (Appendix B: Figure 16). The well was not utilized since 1990 when the entire industrial park was converted to public water (Pennsylvania American Water). The private well, assumed to be the upgradient well, was sampled. The analytical results showed all volatile organics and aromatics, including benzene, toluene, and ethylbenzene to be below USEPA and PADEP drinking water standards.
- TCI concluded that the groundwater near the UST excavation was not impacted by the release from the USTs.
- TCI observed that the floor drain in the vehicle maintenance area was filled with concrete. The drain outfall pipe had been cut off flush with the building foundation and plugged with concrete. The sink drain outfall had been removed and a new sink drain line installed to allow wastewater from the sink to flow directly into the adjacent slop wash tank, the contents of which were periodically sucked out and processed at the adjacent REMTECH TSD facility.

**m. UST Closure Report (Tank #7) – February 1993**  
**550 Industrial Drive**

On October 22, 1992, the facility submitted a notice to PADEP to close a 10,000-gallon fuel oil UST as the facility had converted to gas heat. The UST was removed in February 24, 1993. The UST was identified in another section of the closure report as having 8,000-gallon capacity. Its location is shown on the north side of the property adjacent to Industrial Drive and the parking lot and was identified as Tank 67-09098-007. This tank was also identified as AOC B in the *September 1993 Final RFA Report* (Appendix B: Figure 9); however it should be noted that the AOC B location should actually be located more to the east as documented on other site maps such as Appendix B: Figure 7 and Figure 12. The excavation was dry and showed no evidence of hydrocarbon staining. The tank showed no evidence of pitting, rust, or other structural damage. Three soil samples were collected from directly



beneath the UST and three additional samples were collected from 3 feet below the UST. The samples were analyzed for TPH and BTEX. TPH was detected above the regulatory limits in two samples. BTEX were nondetect in all six samples. Additional excavation was completed and two more soil samples were collected and analyzed for TPH. TPH was nondetect in the two samples and the excavation was backfilled with clean fill. The report concluded that the contamination detected may have been from overfilling at the fill line. On May 5, 1993, PADEP acknowledged receipt of the closure report and stated that based upon the information provided, the closure report was considered acceptable.

**n. Onsite Disposal of Pond Sludge – 1994**  
**550 Industrial Drive**

A PADEP incident notification report dated November 11, 1994, stated that REMTECH had received verbal permission to discharge stormwater from the stormwater retention pond. However, REMTECH also removed the sludge and disposed of it across their fence onto the neighboring farm property. PADEP arrived on site and sampled the sludge for metals, TCLP and priority pollutants. PADEP also collected sludge samples from several locations on the south side of the pond on November 17 and 22, 1994 and analyzed them for VOCs, SVOCs, pesticides, herbicides, PCBs, TPH, TCLP VOCs, TCLP SVOCs, TCLP pesticides, TCLP herbicides, and/or TCLP metals. REMTECH responded to PADEP's intent to issue an NOV for the placement of the sludge materials on the adjacent property requesting a meeting.

The NOV was issued on January 13, 1995. It noted that PADEP's sampling conducted in November confirmed that contamination was present. Numerous constituents were detected such as: naphthalene, benzene, bis-2 ethylhexyl phthalate, ethylbenzene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, toluene, m/o/p-xylenes, oil, butyl benzene, 1,1-dichloroethane, trichloroethene, tetrachloroethene, o-chlorotoluene, propyl benzene, 4-isopropyl toluene, BHC, endosulfan I, g-chlordane, cyanazine, possible late arochlor, mercury, lead, cadmium and barium. REMTECH was required to remove all visible contamination and procure a consultant to prepare a proposal to determine the extent and degree of contamination remaining, if any, after the visibly contaminated soil was removed. The facility provided a response to the NOV on February 13, 1995.

In March 1995, at the direction of PADEP, REMTECH revised their Sampling and Analysis Plan (SAP) for remediation of the pond sludges discharged to the ground. The plan noted:

- Stormwater from the concrete-paved yard area is conveyed via stormwater piping to a pond located on the southern portion of the site. The pond is lined with 60 mil HDPE. Discharge is controlled by an isolation valve located in a manhole on the eastern end of the pond.
- Contaminated sludge was inadvertently deposited on the grassy area surrounding the southeastern portion of the pond during routine cleanout. PADEP requested all visible contamination be removed from the affected portion of the REMTECH property as well as a small portion of the property adjacent to the eastern property line, and a sampling plan be implemented.
- The contaminated materials would be removed mechanically or by excavator and placed into a rolloff container, and the area would be revegetated. No excavation with mechanical equipment was planned in the wetland area as that area was marginally impacted. (Note: The February 15, 1991 Preliminary Wetlands

Assessment completed by RTES related to the proposed expansion of the facility was attached to this document. It was concluded that no wetlands were present within the boundaries of the REMTECH facility. Additionally, the wetland located immediately offsite to the east did not qualify as important based on PADEP's regulatory criteria and an inclusion zone for operating activities was not warranted.)

- Upon removal of the visually contaminated material, sampling would commence and include: screening of the underlying soils using an x-ray fluorescence (XRF) analyzer; collection of confirmation samples for areas where lead was detected below 200 ppm and chromium was detected below 300 ppm; and collection of composite samples from the REMTECH property, the adjacent affected property, a background location, and the contaminated material in the rolloff container.
- Analysis of the soil samples would include: VOCs (grab samples); SVOCs, herbicides, pesticides, PCBs, RCRA metals, and secondary drinking water metals (composite samples); and TCLP parameters (composite of the material in the rolloff container).
- The target remediation level was to meet the PADEP Interim Soil Cleanup Standards for Contaminated Soils.

PADEP approved the SAP on April 12, 1995. On April 17, 1995, REMTECH notified PADEP that the cleanup was scheduled to begin the following week. In-progress corrections to the remediation efforts were communicated by REMTECH to PADEP on April 2, 1995. The corrections included storage of contaminated materials on plastic rather than in rollofs, changes in the sampling protocol for the excavated materials, refraining from removing materials from the potential wetlands area south of the pond without PADEP's direction, and removing silt from the drainage swale culvert by water-rinsing to remove interior silt. REMTECH submitted an update for the cleanup activities including the laboratory analytical results for the soil samples to PADEP on May 4, 1995. It was concluded that satisfactory cleanup was achieved for the areas where impacted soils were removed. In addition, XRF analyses of the wetlands area showed that lead screening across the area approximated background levels. Therefore, disturbance of the wetlands area was deemed unnecessary, and no further cleanup was recommended. On July 5, 1995, REMTECH sent PADEP the Certification Report – *Stormwater Detention Pond Remediation* prepared by RTES dated June 1995.

**o. Depth to Groundwater Determination Report –February 21, 2002**  
**550 Industrial Drive**

This investigation was conducted by CCI to satisfy Condition 16 of the permit modification granted to the facility on August 30, 2001 for the new residual waste building. The objectives were to determine the depth to groundwater in the area of the proposed facility expansion by installing temporary groundwater piezometers and evaluating the occurrence of bedrock within the proposed facility expansion by drilling 11 soil borings to refusal.

The report indicated that the investigation area is underlain by primarily dusky-red silt, silty sand, sand, and clayey silt. These materials represent the weathered components of the underlying bedrock, observed as a dusky-red shale and silty sandstone. Refusal occurred at depths ranging from six to 19 FT BGS. The refusal depths generally corresponded with the identification of weathered bedrock, which was observed at depths ranging from eight to 16 FT BGS.

Water-level monitoring data for February 1, 2002 indicated that depths to groundwater in the unconsolidated materials underlying the proposed expansion area ranged from 13.18 to 13.72 FT BGS. The relative groundwater elevations indicated that the groundwater flow direction in the unconsolidated materials was to the north, northeast. The temporary piezometers were removed (boreholes were sealed to the surface with bentonite after removal of the piezometer materials) following the final round of water-level measurements on February 1, 2002.

**p. Hydrogeology Assessment – March 30, 2010**  
**550 Industrial Drive**

RTES submitted the Hydrogeology Assessment report dated March 30, 2010 to PADEP. The assessment was completed to determine if there was a release from the nonhazardous waste bunkers at the facility, which was originally triggered by finding liquid in the leak detection system. The leak detection system consists of a liner designed to detect liquids, located beneath the pits themselves. An engineering evaluation of the pits showed that concrete movement caused separation of seals and water stops, which were designed to inhibit liquid traveling through the concrete at the joints. The assessment activities included the installation of four 4-inch diameter, 24-foot deep groundwater monitoring wells: West Gate MW (MW-1), East (Main) Gate MW (MW-2), East Lawn 1 MW (MW-3), and East Lawn 2 MW (MW-4) and two groundwater sampling events. The work was completed in accordance with the work plan approved by PADEP on December 4, 2009. The wells were installed on December 21, 2009 and sampled on January 12 and February 16, 2010.

Soil was described as brown silt. Shale bedrock was encountered between 8 feet on the west side of the property and 22 feet on the east side. The groundwater flow direction was to the east-southeast toward the unnamed tributary. The depth to groundwater ranged from an average of 5.31 feet on the west side of the property to 9.23 feet deep on the east side.

Groundwater flow maps were constructed using the depth to water data obtained from the two sampling events. The maps indicate that groundwater flow is consistently to the east-southeast towards an unnamed tributary to Fishing Creek located southeast of the facility.

Groundwater samples were analyzed for USEPA Priority Pollutant List (PPL) VOCs, PPL SVOCs, PCBs, organochlorine pesticides, herbicides, total and dissolved PPL metals, and general wet chemistry. Several regulated substances were detected in the groundwater samples in 2010 including chloroform (4.7 – 6.8 µg/L at MW-2), methylene chloride (1.3 and 1.6 µg/L at MW-3 and MW-2, respectively), TCE (1.7 - 3.3 µg/L at MW-2), bis(2-ethylhexyl)phthalate (6.5 µg/L at MW-2), 4,4'-DDD (0.03 µg/L at MW-3), and total and/or dissolved concentrations of cadmium, copper, iron, magnesium, manganese, nickel, potassium, sodium, and zinc. All of the detected parameters were below the  $MSC_{GW}$ , except dissolved copper in one well and dissolved manganese and total iron in all four wells, neither of which was attributed to the pits being a source.

It was concluded that the groundwater monitoring network adequately monitored the nonhazardous pits and the groundwater quality data did not suggest a release had occurred from the pits. The pit bases were planned to be reconstructed to ensure integrity. It was noted that the leak detection system was designed per the regulations for this type of processing facility to collect liquid, and was observed for water accumulation to show that the pits themselves had integrity. The leak detection system demonstrated, through lack of a

significant groundwater release, to have properly served its function. The facility recommended reconstruction of the pits following appropriate engineering recommendations to insure integrity after work was completed to identify and address any other moisture sources to the leak detection zone and to assure proper original design function.

PADEP provided a list of comments to the report on July 15, 2010 and recommended continued sampling of the four monitoring wells prior to putting the reconstructed waste bunkers into service and then on a three calendar quarterly frequency, unless the homeowners eligible for the Act 108 sampling program agreed to forego quarterly monitoring, then the monitoring well sampling frequency should be quarterly with results provided to the homeowners.

**q. PADEP Requests New Act 108 Survey (Private Water Supply Sampling) to be conducted – January 11, 2012**

August 17, 1990, REMTECH notified PADEP that they had contacted all (88) landowners within 2,500 feet of the facility of their rights under Act 108.

On October 18, 1990, PADEP informed REMTECH of their obligation to sample private water supplies quarterly for constituents specific to the facility operations. On December 19, 1990, REMTECH finalized the Act 108 Private Water Supply Testing Plan. Forty-six (46) property owners requested water sampling; 20 had already been sampled by an outside laboratory for REMTECH. Analytes included ammonia-nitrogen, bicarbonate, calcium (total/dissolved [T/D]), chemical oxygen demand, chloride, fluoride, iron (T/D), magnesium (T/D), manganese (T/D), nitrate-nitrogen, nitrite-nitrogen, potassium (T/D), sodium (T/D), sulfate, alkalinity, specific conductance, total filterable residue, total organic carbon, total phenolics, turbidity, and total organic halogens.

REMTECH notified PADEP on June 23, 1992 that they would be using one laboratory for the quarterly sampling for all 46 homeowners requesting sampling/analyses. In February 1993, the analyses included Act 108 and non-Act 108 constituents including a solvent scan (ethyl acetate, formaldehyde, isobutanol, and methanol), acid extractables, base neutrals, and VOCs. On September 29, 1993, REMTECH notified PADEP that the list of Act 108 private water supply wells sampled was amended due to realignment of the 2,500-foot radius to correspond with newly permitted areas, change in ownership of properties, conversion of drinking water supplies to public water, and property owners opting out of the sampling program. The amended list included eight properties located on Wyndamere Road, Pleasant View Road, and Grandview Circle. This list was reduced to six properties on October 8, 1997 (one resident of the six declined to be sampled).

In August 1996, REMTECH notified PADEP that 16 of the 25 private water supplies sampled contained high coliform counts, unrelated to the facility's operations. The standard Act 108 quarterly samples were collected.

Over the years, quarterly and annual sampling events were conducted at numerous residences. Act 108 and non-Act 108 parameters including SVOCs, TPH, PCBs, and VOCs were analyzed. In May 2004, five Act 108 private wells (quarterly sampling) and 20 non Act 108 (composite testing) participants were identified. In October 2009, five private wells were sampled by CCI. VOCs, SVOCs, PCBs were not detected in the wells. In December 2009, as there had been no chemical contaminants related to CCI operations detected in the private water wells, CCI requested a reduction of residential sampling from quarterly to annually.

CCI sent out surveys on December 10, 2009 to the individual Act 108 homeowners and one indicated that they would like to have CCI test their well annually and remove it from the Act 108 program.

In 2011, PADEP inquired why some of the residential drinking water well samples were being analyzed as Act 108 wells and others as non-Act 108 wells. At that time, there were only four Act 108 private drinking water wells being sampled quarterly and it appeared that additional residential drinking water wells were located within a 2,500-foot radius of the facility that would be eligible for Act 108 sampling. As a result, on January 11, 2012 PADEP requested that a new Act 108 survey be conducted to verify whether or not these residences were hooked up to public water. Survey correspondence dated March 12, 2012 via computer search, water hookup verification and site reconnaissance revealed 352 properties within a 2,500-foot radius of the facility (i.e. 179 properties connected to public water, 120 not connected, and 53 unknown). The Department requested that CCI send out a letter and well survey forms to the locations not included on the public water hookup listing (i.e. 120 not connected and 53 unknown). At that time, CCI's onsite monitoring wells were required to be monitored/sampled once every nine months; however CCI proposed to replace the homeowner quarterly sampling with quarterly sampling/analysis of CCI's onsite monitoring wells. CCI mentioned that this increased monitoring of the onsite wells would allow the homeowner earlier assurance that their wells were not being impacted by the operations, as any groundwater issues would be identified and corrected at an earlier stage. In relying on analyses of the homeowner's well, any adverse effects on the groundwater wouldn't be recognized as quickly, and the problem could not be as easily rectified. PADEP informed CCI that it would be up to the homeowner and not PADEP to approve an Act 108 sample location reduction.

On April 17, 2012, after further investigation of addresses, CCI provided PADEP with a list of 63 homeowners with private wells within a 2,500-foot radius of the CCI facility. Additional locations were recommended by PADEP increasing the number of potential Act 108 properties to 70 drinking water wells within the 2,500-foot radius. In 2012/2013, Act 108 letters were mailed to each of the 70 residential drinking water well locations along with a survey form and well specification form for each of the homeowners to fill out, sign and return. Out of the 70 surveys: 7 homeowners elected to have their private well sampled on a quarterly basis in accordance with Act 108 requirements; 10 homeowners chose the "early warning" option for them to receive CCI quarterly onsite groundwater data instead of having their private drinking water well sampled; and one owner chose the option to not receive laboratory analytical analyses reports, but to be notified as soon as any potential impacts to his drinking water well were realized (see Appendix B: Figure 17). One property was a business, which does not fall under the Act 108 requirements, and as a result was removed from the Act 108 list of potential candidates. The remaining property owners did not reply to the ACT 108 well survey. CCI provided certified mail receipts as documentation to PADEP that the surveys were mailed/received.

The water quality results from the four Act 108 residences sampled in September 2011 and March 2012, and the seven Act 108 residences sampled from June 2012 through May 2016 did not reveal any specific constituents for which hazardous wastes are listed. Analyses included general waste quality parameters, coliform, chlorinated pesticides, herbicides, metals, PCBs, SVOCs, TOX, TPH and VOCs. Quarterly Act 108 sampling continues to date at the 7 residential drinking water well locations for PPL pesticides, PPL herbicides, PPL metals, PPL + additional non-PPL SVOCs, PPL + additional non-PPL VOCs, TOX, PCBs, and general chemistry. The other 10 residential locations receive the "early warning" CCI quarterly onsite groundwater data instead of having their private well sampled.

r. **Hydrogeology Assessment – First Quarter 2013 to Present-Day**  
**550 Industrial Drive**

Beginning in Third Quarter 2012 (3Q12), CCI began sampling the four onsite groundwater monitoring wells quarterly, instead of on a three calendar quarterly frequency, as a result of ten Act 108 residents choosing to receive CCI quarterly data instead of having their private drinking water well sampled. During the September 27, 2012 groundwater sampling event several constituents were detected at the Main Gate Well MW-2 location as follows: chloroform (6.4 µg/L), 1,2-dichloroethane (1.1 µg/L), 1,1,1-TCA (29.1 µg/L), tetrachloroethene (1.2 µg/L) and TCE (86.3 µg/L). No VOCs were detected at the other onsite groundwater monitoring well locations. NO SVOCs, PCBs, pesticides or herbicides were detected in the groundwater samples. As a result of TCE being detected again during the 4Q12 sampling event, PADEP split groundwater samples during the 1Q13 sampling event and analytical results again indicated similar elevated concentrations.

CCI attributed the TCE contamination to an offsite release (across the road from the CCI East entrance gate) of drummed wastes on February 1, 2012 by AEG; however in May 2013, PADEP requested CCI to investigate in order to provide burden of proof and to ensure that the elevated TCE plume is properly characterized and addressed in a timely manner. The AEG spill report indicated the contents of the drum as “nonhazardous oily debris” waste. May 13, 2012 correspondence from AEG documented that *“On February 1, 2012, AEG received waste for transportation from our client, Southern States in Frederick Maryland; the waste was destined for AEG’s facility in Westminster, MD. Prior to shipment, AEG had received a Waste Material Profile characterizing the waste as oily debris. While in transit one of the drums containing this material failed and caused a release of oil onto the ground near Grandview Drive in Fairview Township. AEG responded to the spill site with a hazardous materials response team and remediated the spill area using absorbent material. All waste generated during the spill cleanup was containerized and transported to AEG’s facility for processing and ultimate disposal in Modern Landfill in York, PA.”*

ARM submitted the *Groundwater Assessment Plan* (GAP) dated July 11, 2013. PADEP approved the plan on July 25, 2013 and the drilling of proposed well MW-5 occurred on November 21, 2013. The groundwater assessment was conducted in accordance with the plan and §288.256 of the Department’s Residual Waste Regulations. Monitoring wells MW-2 and MW-5 were sampled on November 27, 2013 and January 2, 2014 for comparison purposes. The *Groundwater Assessment Report* (GAR) dated January 10, 2014 documented TCE and other VOCs in the vicinity of the MW-2 well location at concentrations consistent with previous quarterly sampling results. The newly drilled well MW-5, located upgradient of MW-2, was found to not be affected by the TCE contaminated groundwater plume. The assessment report concluded that the suspected source of the TCE coincided with the location and timing of an offsite release of drummed wastes on February 1, 2012 by AEG. The report also noted that VOCs were not being detected in CCI’s other onsite wells (MW-1, MW-3, and MW-4), which indicated that no onsite sources were known or suspected. As a result, the assessment report concluded that no additional groundwater assessment or abatement activities were warranted due to the facility; therefore CCI requested PADEP approval for termination of the groundwater assessment program.

PADEP correspondence dated January 28, 2014 requested that CCI continue to investigate the contamination in accordance with Act 97 of the Solid Waste Management Act of 1980 because *“clear and convincing evidence”* had not yet been provided in accordance with

SWMA Act 97; Article VI. Enforcement and Remedies; SECTION 611 (Presumption of law for civil and administrative proceedings), which states that, *“It shall be presumed as a rebuttable presumption of law that a person or municipality which stores, treats, or disposes of hazardous waste shall be liable, without proof of fault, negligence, or causation, for all damages, contamination or pollution within 2,500 feet of the perimeter of the area where hazardous waste activities have been carried out. Such presumption may be overcome by clear and convincing evidence that the person or municipality so charged did not contribute to the damage, contamination, or pollution.”* PADEP’s July 25, 2013 assessment plan approval letter noted that the original shallow piezometers installed in January 2002 for the proposed residual waste treatment facility expansion indicated that the *“groundwater flow direction in the unconsolidated materials is to the north to northeast.”* As a result, there was potential for contaminant migration to the north-northeast at the CCI facility possibly via the top of bedrock, strike/dip/fractures. These shallow piezometers had been installed to satisfy Condition Number 16 of the Permit Modification for the new Residual Waste Building which was granted to CCI on August 30, 2001. All five of CCI’s current groundwater monitoring wells had been drilled to total depths of 25 FT BGS and the top of bedrock fell within the well screened intervals at all well locations. Therefore, PADEP recommended that a soil investigation be conducted to provide definitive *“clear and convincing evidence”* that the February 1, 2012 spill was the source of the TCE contamination and not the CCI facility. PADEP also requested that CCI notify each owner of a private or public water supply, located within ½-mile downgradient of the facility, that a groundwater assessment had been initiated in accordance with Pa Code §288.256(d).

CCI met with PADEP on February 20, 2014 to discuss PADEP’s letter dated January 28, 2014 pertaining to additional requested groundwater assessment due to TCE detections at the Well MW-2 location. CCI continued to suspect the TCE contamination was the result of the offsite AEG February 1, 2012 spill and did not plan to do any additional environmental investigating. The AEG spill report indicated that the multichem chemical test strip identified the waste as oil based and slightly acidic. CCI suggested that PADEP seek out AEG for the investigation. PADEP mentioned that as a result of Act 97, CCI would first need to present *“clear and convincing evidence”* proving that CCI was not the source. PADEP Counsel letter dated March 6, 2014 gave CCI a time frame until March 12, 2014 for CCI to comply with PADEP’s request for a modified assessment plan, implementation schedule, and public notification.

On behalf of CCI, ARM submitted a *Supplemental Groundwater Assessment Plan (SGAP)* dated March 11, 2014. The plan noted that CCI would include any appropriate conclusions and recommendations regarding the need for any additional assessment activities, the establishment of an appropriate abatement standard, and/or the need to develop or implement an abatement plan. PADEP’s response letter dated March 13, 2014 approved the plan but recommended additional investigation be conducted in the vicinity of Well MW-2 to provide evidence that there was not an onsite source in-between wells MW-2 and MW-5 (i.e. unreported spill from other trucks parked along Industrial Drive, migration from the facility along the public water line which underlies the CCI loading/unloading area, underground water meter pit, or other) while the drilling rig was available. PADEP mentioned that if a contaminant source for Well MW-2 is not determined in the vicinity of the spill area, CCI would need to investigate for an onsite source. Per PADEP’s request, numerous groundwater assessment notification letters were sent to nearby homeowners on March 11, 2014; however PADEP requested that the Act 108 properties and the Act 108 *“early warning”* properties that had not been included in the public mailings to also be notified. CCI mailed out the additional public notification letters on March 13, 2014.

Supplemental GAPs (July 24, 2014 and October 20, 2015) and GARs (June 13, 2014, November 25, 2014, and July 29, 2016) were proposed/completed by ARM Group to help determine the source and delineate the aerial extent of the TCE groundwater plume. As of July 29, 2016, CCI had installed four additional groundwater monitoring wells (i.e. onsite wells: MW-5, MW-7 and MW-8; and offsite well: MW-6) and collected groundwater/soil/soil vapor samples to delineate the aerial extent of the TCE contaminated groundwater plume. The 550 Industrial Drive Environmental Investigation (2013-2016) is summarized below:

- In November 2013, MW-5 was drilled (25 FT TD) onsite/upgradient/west of MW-2 (25 FT TD) as noted on Appendix B: Figure 21. All constituents of concern detected previously in MW-2 groundwater samples (Carbon Tetrachloride, Chloroform, 1,1-Dichloroethene, Tetrachloroethene, 111-Trichloroethane, and TCE) were nondetect (<1 µg/L) at the MW-5 location. As a result of the data not further delineating the TCE plume, PADEP requested that CCI conduct additional investigation. To date, Well MW-5 groundwater analytical results from sampling events (November 27, 2013, January 2, 2014, January 23, 2014, January 22, 2015, April 23, 2015, March 4, 2016 and April 26, 2016) have documented TCE on one occasion at 2.9 µg/L.
- In March 2014, five soil borings were advanced to bedrock refusal offsite in the vicinity of the February 1, 2012 AEG spill at depths ranging from 3.5 – 7 feet below grade, as noted on Appendix B: Figure 21. Soil cores were collected continuously via macro-core sampler sleeves and screened with a PID for the presence of VOCs and visually inspected for staining or other signs of contamination. No odors or staining were observed, however a total of 2 soil samples were collected from locations that were considered to present the highest chance of TCE contamination based on PID readings and sample depths (SB-3 and SB-4). There were no detections of any VOCs in either of the soil samples.
- In April 2014, MW-6 was drilled offsite to a TD of 35 FT BGS as noted on Appendix B: Figure 21. TCE was detected at 1.1 µg/L during the first sampling event on April 17, 2014. PADEP pointed out that the TCE contamination documented at Well MW-6 may have been the result of field cross contamination and/or laboratory contamination based on the fact that according to the laboratory documentation from the sampling event, TCE was detected at 147 µg/L at Well MW-2 (sampled at 11:36 AM), whereas TCE was detected at 1.1 µg/L at Well MW-6, which was sampled at noon on the same day. PADEP again requested that CCI conduct additional investigation so that the TCE plume could be delineated and a determination made to verify if there were any vapor concerns. Well MW-6 was sampled again on January 22, 2015 and TCE was detected at 3 µg/L. Nondetect (<1 µg/L) TCE concentrations were documented in subsequently collected samples (i.e. April 23, 2015, March 4, 2016 and April 26, 2016).
- In August 2014, four soil borings were advanced onsite to refusal depths ranging from 7 – 9 FT BGS (Appendix B: Figure 22). No odors or staining were observed in any of the 4 soil borings; however 2 soil samples were collected from two locations that were considered to present the highest chance of TCE contamination based on PID readings and sample depths (Sample locations B-1 and B-2). Only methylene chloride was detected in these soil samples and the concentrations were below their respective PADEP Act 2 Residential/Nonresidential MSC<sub>SOIL</sub>. A soil vapor sampling



point was also installed onsite at a location southeast and downgradient of Well MW-2, in-between Well MW-2 and the adjacent neighboring commercial property to the east. The soil vapor sampling point was constructed of a 1" diameter PVC well casing from ground surface to approximately 9 feet below grade (refusal depth). The lower 5 feet consisted of 1-inch diameter slotted PVC well screen with 4 feet 1-inch diameter solid-walled PVC riser pipe above the well screen. Sand filter packing was placed into the annular space around the well screen up to a depth of 0.5 feet above the well screen and hydrated bentonite seal was placed above the sand pack in order to prevent short-circuiting of air along the well casing. Soil vapor samples were collected on two occasions (August 26, 2014 and November 4, 2014). Constituents were detected during both soil vapor sampling events such as: acetone, benzene, n-butane, 2-butanone, tert-butyl alcohol, chloroform, chloromethane, cyclohexane, 1,3-dichlorobenzene, 1,4-dichlorobenzene, dichlorodifluoromethane, ethanol, ethylbenzene, 4-ethyltoluene, heptane, hexane, isopropyl alcohol, isopropylbenzene, 4-methyl-2-pentanone, methylene chloride, naphthalene, iso-octane, n-propylbenzene, propylene, styrene, tetrahydrofuran, toluene, trichlorofluoromethane, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 1,2,3-trimethylbenzene, and/or xylenes; however the concentrations were below their respective PADEP Residential and Non-residential soil gas Medium-Specific Concentrations (MSC<sub>SG</sub>). TCE was not detected during either of the soil vapor sampling events.

- In October 2014, two additional wells were drilled onsite to further delineate the TCE groundwater plume (Appendix B: Figure 22) and the wells were documented in the Cycle Chem November 25, 2014 GAR2. Well MW-7 (TD of 25 FT BGS) was installed in-between Well MW-2 and the adjacent neighboring commercial property to the east (Appendix B: Figure 22). Well MW-8 (TD of 37 FT BGS) was also drilled in-between the CCI facility and contaminated Well MW-2. The Fourth Quarter 2014 groundwater sampling event revealed no TCE detections (<1 µg/L) at the following well locations: MW-1, MW-3, MW-4 and MW-7; however TCE detections were documented at wells MW-2 (192 µg/L) and MW-8 (169 µg/L). Note wells MW-5 and MW-6 were not sampled during the Fourth Quarter 2014 groundwater sampling event. The November 25, 2014 Supplemental GAR2 recommended sampling of all eight groundwater monitoring wells during the First Quarter 2015 and Second Quarter 2015 groundwater sampling events.

During the August 22, 2014 Environmental Indicator (EI) inspection, a second public waterline hookup was noted in the Residual Waste building on the east side. CCI mentioned during the site visit that the public waterline in the vicinity of Well MW-5 was not properly plotted on the quarterly groundwater elevation maps (Appendix B: Figures 24 and Figure 25) and that the public waterline only entered the property on the west side of the Cycle Chem facility office building. PADEP's December 3, 2014 response letter, pertaining to Cycle Chem's November 25, 2014 Supplemental GAR2 accepted CCI's recommendation to sample the groundwater monitoring wells during the next two sampling events, but also requested that CCI submit a map indicating where the waterline(s) extended beneath the facility. On December 8, 2014, CCI provided a utility map (Appendix B: Figure 19) indicating that the actual waterline in the vicinity of the parking lot traverses east-west and not north-south as noted on the facility site maps (Appendix B: Figure 6, Figure 14, Figure 24 and Figure 25).

- Elevated TCE concentrations were again documented at wells MW-2 and MW-8 during the First Quarter and Second Quarter 2015 groundwater sampling events. As a result of these elevated TCE detections and the fact that the public waterline intercepted the underlying shallow TCE groundwater plume creating a preferential pathway for contaminant migration, PADEP's September 11, 2015 letter requested that additional vapor intrusion sampling be conducted to verify that potential offsite and onsite receptors were not being impacted, including inside the facility office building.

The Cycle Chem October 20, 2015 Supplemental GAP3 and July 29, 2016 Supplemental GAR3 documented the proposal/completion/sampling of three soil gas points across the site (Appendix B: Figure 23), the evaluation of water-level elevation data from all of the onsite wells, and additional sampling and analysis of groundwater from all of the onsite wells except for MW-5. Two rounds of additional soil vapor sampling were conducted from three soil gas sampling points on December 21, 2015 and March 17, 2016 (Appendix B: Figure 23). At outside sampling location V-1, ARM used a slam bar to create a narrow hole into the soil to a depth of approximately 3.5 feet below the ground surface. At the Cycle Chem indoor office building subslab sampling locations V-2 and V-3, ARM first used a hammer drill to drill an approximately 3/4-inch diameter hole through the existing 8-inch thick concrete floor slab, and then used a slam-bar to create a narrow hole in the underlying soils to a depth of approximately 3.5 feet below the concrete slab surface. A flexible 1/8-inch plastic tube was then inserted into each hole and sealed around each tube at the ground surface with inert modeling clay and then hydrated bentonite. The exposed end of the plastic tube was clamped shut, and each soil gas sampling point was set to equilibrate for at least 2 hours to natural conditions. After equilibration, a leak test was conducted, via metal shroud. Helium was added into each shroud until a stabilized concentration of 10 – 20% helium was achieved. Once a stabilized reading of helium was achieved in the shroud for several minutes, the MGD 2002 helium gas detector was inserted into the sampling port of the borehole to measure the concentration of helium within the borehole for several minutes. At all 3 of the soil gas sampling locations, the helium concentration in the borehole was substantially less than 10% of the concentration within the shroud as recommended by PADEP, confirming a leak-free test. Once the leak test was complete, roughly three volumes of air were evacuated from the sampling line and borehole at a rate of 100 mL/min with the use of an AirChek 2000 air pump. The soil gas sample was then collected into an evacuated 1 Liter SUMMA canister that was connected to the sampling port in the shroud. A pressure regulator was affixed to the 1 Liter SUMMA canister to facilitate collection of the sample at a flow rate of approximately 100 mL/min, consistent with PADEP recommendations. The collected sample was submitted to ALS Environmental in Middletown, PA and analyzed for TCE and other volatile organic gases of potential concern in accordance with the applicable provisions of the PADEP's vapor intrusion guidance and EPA Method TO-15.

The laboratory results for the soil gas samples collected on 12/21/2015 and 3/17/2016 were compared to the applicable PADEP Act 2 Statewide Health soil gas Medium-Specific Concentrations ( $MSC_{SG}$ ) in addition to the proposed 2015 PADEP  $MSC_{SG}$ . The  $MSC_{SG}$  is a function of the Indoor Air Medium-Specific Concentration ( $MSC_{IAQ}$ ), and a transfer (or attenuation) factor of 0.01 applies in going from outside to inside the building. Current PADEP Act 2 Residential and Non-residential  $MSC_{SG}$  for TCE are  $1.2 \text{ mg/m}^3$  and  $4.8 \text{ mg/m}^3$ , respectively.

Laboratory results indicate similar constituents of potential concern were detected in each of the soil gas samples as noted above during the 2014 sampling events in addition to: 1,2-dichlorobenzene, cis-1,2-dichloroethene, di-isopropyl ether, ethyl acetate, Freon 113, MTBE Trichloroethene and/or Tetrachloroethene. All of the detected concentrations were below the applicable PADEP Act 2 Statewide Health  $MSC_{SG}$  for each constituent in all three soil gas samples during both sampling events. For comparison purposes, outdoor soil gas sample location V-1 on the east side of the property was nondetect for TCE ( $<0.001 \text{ mg/m}^3$ ) during both soil gas sampling events. In regards to the indoor CCI office building subslab soil gas samples: Location V-2 revealed TCE concentrations at  $0.0023 \text{ mg/m}^3$  and  $0.0039 \text{ mg/m}^3$  and Location V-3 revealed TCE concentrations at  $0.0056 \text{ mg/m}^3$  and  $<0.001 \text{ mg/m}^3$ . Based on the inferred groundwater flow directions, and the measured TCE concentrations in soil gas samples V-2 and V-3 collected on 12/21/15 and 3/17/16, the intrusion of VOC vapors to indoor air is not an exposure pathway of concern for Cycle Chem's office building. Additionally, based on the results of the soil vapor samples collected at outdoor soil gas sample location V-1, along the eastern edge of the Cycle Chem property, the TCE groundwater plume is not presenting any offsite exposure risks of potential concern with respect to vapor intrusion. As a result of these findings and conclusions of this supplemental assessment, additional soil borings, monitoring wells or soil gas sampling activities were not recommended. The Supplemental GAR3 indicated that TCE contamination in groundwater had been delineated to a small area surrounding Well MW-2, the mostly likely source continues to be a potential historical release, there were no current or anticipated future exposure risks of concern from vapor intrusion or groundwater use, and the TCE concentrations indicate a downward trend as a result of natural attenuation processes. However, to further assess the groundwater flow and natural attenuation processes, ARM recommended that monitoring wells MW-5 through MW-8 be measured for groundwater elevations, and monitoring wells MW-6 through MW-8 be sampled for VOCs, for at least the next two quarterly sampling events (Third Quarter 2016 and Fourth Quarter 2016), concurrent with the sampling of MW-1 through MW-4. Following the review of that information, recommendations for increased or reduced monitoring, in-situ treatment, and/or other measures deemed appropriate will be presented in future quarterly groundwater monitoring reports. PADEP agreed to these recommendations.

## **C. Description of Exposure Pathways for all Releases or Potential Releases**

### **1. Air:**

#### **550 Industrial Drive:**

The Cycle Chem facility is located at 550 Industrial Drive in Lewisberry, Fairview Township, York County, Pennsylvania. Fairview Township, Pennsylvania had an estimated 2010 population of 16,668, according the US Census Bureau ([www.factfinder.census.gov](http://www.factfinder.census.gov), accessed February 24, 2015). CCI maintains the State Only Operating Permit 67-03046 for air emissions from the ASTs.

Air release complaints have been documented over the past years and the most recent ones are noted below. Air/dermal exposures can occur when CCI workers handle open containers of hazardous wastes during mixing/testing operations.

- A February 18, 1998 incident report documented white vapor venting from a 5-gallon PE pail containing waste ethyl chloroformate. Waste was transferred from a 1-gallon container and mixed with diesel fuel in a 30-gallon container. The vapors did not leave the immediate area of the facility. No liquid spilled to the ground. There was no known contamination of land or water. Vapors accumulated in the facility building until dispersed with introduction of fresh air. No discernable volume of liquid was lost to the atmosphere and no reportable quantity released.
- On June 10, 1999 the facility placed incompatible quantities of waste acids in a tanker truck destined for offsite disposal which resulted in a chemical reaction while the tanker truck was traveling on a public highway and resulted in the release of toxic gases to the environment.
- On June 9, 2004 a sodium hydroxide spill occurred at the facility while a drum was being moved. A vapor cloud was created from the spill and the cloud drifted into the worker break area. The offices in the building were evacuated and the spill was contained and cleaned up.
- PADEP complaint inspection on January 4, 2005 at the CCI facility, noted that an exothermic reaction occurred when outdated sodium hydroxide pellets were added to the residual waste mixing pit that contained some water/fluid. The wastes were being solidified with sawdust. Release of a large quantity of water vapor to the atmosphere occurred via the open doors. Vapor was traveling vertically upward before being dispersed by the wind. Mixing pit and several rollofs in the building containing this material were flooded with water. Leachate was collected and handled appropriately. Emergency crews were dispatched to the facility.
- CCI facility incident report dated November 21, 2006 documented an in-drum reaction of bromine tablets with organic/oxidizer (suspected) on drum lid. A small fire was contained in drum and a large vapor/smoke cloud emitted and migrated approximately 0.5 miles to I-83.
- On November 1, 2008, a 5-gallon pail containing 10-20 pounds of aluminum powder was knocked over into a 55-gallon drum containing 100 pounds of solvent sludge creating a reaction that resulted in a fire. There was no threat to public health or safety or the environment. The fire was contained in the original drum and extinguished using a fire extinguishing agent.
- On June 17, 2009 an explosion and subsequent fire occurred in Pit #3 of the nonhazardous waste building at the CCI facility.
- On August 2, 2010 the ignition of flammable gas (hydrogen gas) from a waste container occurred as a result of the container being cut open. The employee was cutting the top of a waste container that was misidentified (silicon carbide and water mixture) at which time hydrogen gas was formed and ignited. No release of material reportedly occurred.
- Laboratory analytical results have documented elevated TCE in groundwater at the facility since 2012; therefore PADEP requested CCI to conduct an environmental assessment in accordance with Pa Code §288.256 to determine if there is a concern for exposure via groundwater, soil or vapors to onsite workers at the CCI facility or the possibility of an offsite impact due to the contaminated groundwater plume and shallow depth to groundwater (3 – 16 FT BGS). The existing CCI facility office structure is located within 100 feet of a potential source area. As a result, the vapor intrusion exposure pathway evaluation request was relevant. Vapor intrusion investigations were conducted in 2014/2015/2016 as noted in *Section B.7 - "Investigations and Remedial Actions to Date"* of this EI report. Soil gas laboratory results

indicate that one or more constituents of potential concern were detected in the soil gas samples via indoor facility office building subslab samples in 2015 and 2016 and outdoor soil gas samples in 2014, 2015, and 2016; however all of these detected concentrations were below their applicable PADEP Residential and Nonresidential MSC<sub>SG</sub> in all soil gas samples during these sampling events.

#### 560 Industrial Drive:

The former potential air emission sources (residual waste storage area, open floor trenches, sloop tank, solvent parts cleaner unit, and USTs) are no longer present at the B&C Fastener's property because current use of the facility is not related to the previous operations documented in the September 1993 Final RFA. B&C does use an AQ-1 Safety-Kleen parts washer unit in the indoor workshop where tools are repaired. This unit uses an aqueous water-based solution instead of solvent-based for cleaning parts. Safety-Kleen picks up the waste solution on a monthly basis. A photograph of the unit can be viewed in Appendix A.

## **2. Groundwater:**

The 6 acre CCI facility is located within an Industrial complex in Fairview Township at 550 Industrial Drive, York County, Lewisberry, PA. Both public water hookups and private drinking water wells are used by businesses and residences in this area. According to the PA Topo Survey (WR-49), the CCI facility is underlain by the Triassic Gettysburg Formation and the bedrock dips ~25 – 33 degrees to the northwest in the vicinity of the site. In northeastern York County, the Gettysburg Formation consists of equal amounts of interbedded red shale and red/brown/gray sandstone. Triassic Igneous diabase dikes also cut through the area and are possibly associated with fractures/faults. The CCI *Final Groundwater Monitoring Plan* revised December 2013 mentions that the Pennsylvania Geologic Survey (PGS) maps a Triassic Igneous Diabase between Laura Drive and Wyndamere Road, east of the CCI facility (Appendix B: Figure 17). The CCI facility is located at approximately 500' above mean sea level and the local topography slopes to the southeast towards Fishing Creek which is located approximately 1300 feet south of the site. Groundwater is generally under unconfined (water-table) conditions, although deeper supply wells constructed within higher yielding sandstone interbeds within the Gettysburg Formation may receive their water from confined aquifers. Wells in the Gettysburg Formation typically yield good quality waters in quantities suitable for domestic use. Hydraulic conductivities range from  $10^{-3}$  to  $10^{-4}$  centimeters per second. The onsite groundwater monitoring wells have documented the shallow unconfined groundwater to flow from the east-southeast towards an unnamed tributary. Fishing Creek flows to the east and is located ~1300 feet south of CCI facility and intercepts the unnamed tributary and the Susquehanna River approximately 1.7 and 5 miles to the southeast, respectively.

A well log from the original drinking water well drilled on the 550 Industrial Drive property in 1979 indicated that the site is underlain by intermittent beds of sand, clay, and shale extending to 47 FT BGS. A shale bedrock layer, which extends from 47 to 100 FT BGS, overlies a sandstone layer approximately 50 feet thick. Undefined bedrock was noted on the well log extending to a TD of 200 feet. The well log also documented two water bearing zones, at 123 and 179 FT BGS. Eight additional shallow CCI groundwater monitoring wells, drilled from 2009 to 2014 with total Well Depths ranging from 25 – 37 FT BGS, also encountered the Gettysburg Formation.

Onsite well data has documented the depth to groundwater ranging from 3 to 16 FT BGS. A 16-FT BGS depth to water measurement was documented at the 1979 original onsite well location on January 23, 2015, just prior to it being abandoned. The eight shallow CCI groundwater monitoring wells (further discussed below) have documented the depth to groundwater ranging from 3 to 14 FT BGS.

A drinking water well was also identified on the 560 Industrial Drive property and documented in the May 8, 1993 Tethys closure report (Appendix B: Figure 16). This water well was not included in the PaGWIS well search noted below or found during the August 26, 2014 EI inspection. The 1993 Tethys report indicated that the well had not been used since 1990, except for the closure of the USTs. In fact the February 25, 1992 VSI conducted for the *September 1993 Final RFA Report* noted that REMTECH representatives stated that the adjacent Keller property (560 Industrial Dr.) had always been serviced by public drinking water and this well was not included on the 1993 RFA maps. A drawing dated February 21, 1992 identifying pre-1989 waste management units stated the water well on lot 16 (560 Industrial Drive) was not located. The entire industrial park was converted to public water (Pennsylvania American Water) in 1990 (TCI, 1993), and the wells were no longer used. As a result, it is unknown how deep the 560 Industrial Drive private well was and/or when/if it was abandoned.

The Pennsylvania Groundwater Information System database (PaGWIS, accessed February 25, 2015) identified 31 groundwater wells located within a 0.5-mile radius of the facility. The wells appear to be located primarily northeast, east, and southeast of the facility and include the following:

- a. Two commercial wells owned by Hillside Café and Francesco's Pizza (Appendix B: Figure 18). The Hillside Café well is reported to be 80 feet deep, and is located northeast of the facility, east of I-83. Francesco's Pizza is located at the intersection of Industrial Drive and Wyndamere Road, east of the facility. There was no additional information in the PaGWIS database for these two commercial wells.
- b. Eight industrial use wells ranging from 35 to 300 feet deep with yields up to 60 gallons per minute (gpm) are listed below. With the exception of the two wells owned by Wright Assoc, these wells appear to be located within the Industrial Park. The coordinates for the Wright Assoc wells place them east of I-83.
  - One 175-foot-deep well installed in 1979 and owned by Shandon Construction Co with reported yield of 25 gpm.
  - One 200-foot-deep well installed in 1979 and owned by Mechanical Serv Co with reported yield of 20 gpm. This is the original well located at 550 Industrial Drive that was abandoned on January 23, 2015.
  - One 300-foot-deep well installed in 1981 and owned by Berg Electronics with reported yield of 60 gpm.
  - One 125-foot-deep well installed in 1978 and owned by Capital Lubricants with reported yield of 10 gpm.
  - Two 100-foot-deep wells installed in 1982 and owned by Wright Assoc (believed to be monitoring wells) with reported yields of 8 and 12 gpm.
  - Two 35-foot-deep wells installed in 1993 and owned by Remtech (now Cycle Chem, Inc.). These wells appear to be monitoring wells that were installed to address a release of diesel fuel and No. 2 fuel oil from USTs owned by Remtech that occurred at 560 Industrial Drive, and have subsequently been abandoned (Appendix B: Figure 16).
- c. Nine domestic use wells ranging from 100 to 240 feet deep with yields up to 30 gpm are noted below. Of the wells listed, the PaGWIS coordinates place the Miller & Norford, Inc., Gettys Builders, and Beaver Homes, Inc. wells on Grandview Drive and Grandview Circle. The remaining wells are placed within the Industrial Park unless otherwise noted.

- One 115-foot-deep well installed in 1974 and owned by AG Mauro Co with reported yield of 8 gpm.
  - One 100-foot-deep well installed in 1982 and owned by Wright Assoc (believed to be a monitoring well, as above) with yield of 10 gpm. (Note: The PaGWIS coordinates place this well east of I-83 in the same area as the Wright Assoc wells listed above.)
  - One 200-foot-deep well installed in 1929 and owned by Miller & Norford, Inc. with reported yield of 8 gpm.
  - One 180-foot-deep well installed in 1986 and owned by Beaver Homes Inc. with reported yield of 18 gpm.
  - One 198-foot-deep well installed in 1989 and owned by Gettys Builders with reported yield of 15 gpm.
  - One 115-foot-deep well installed in 1974 and owned by Richard D. Markey with reported yield of 8 gpm.
  - One 160-foot-deep well installed in June 2011 and owned by Jeanette Walck with reported yield of 9 gpm. The PaGWIS database indicates this well is located at 651 Wyndamere Road.
  - One 125-foot-deep well installed in 1992 and owned by R. Fink with a reported yield of 30 gpm.
  - One 240-foot-deep well installed in 1967 and owned by Robert Boyer with a reported yield of 30 gpm.
- d. Two wells specified as “other” are listed below:
- One 180-foot-deep well owned by Frank with reported yield of 10 gpm. This well was installed in 1996 at 700 Wyndamere Road.
  - One 175-foot-deep well installed in 1996 and owned by Woland with a reported yield of 20 gpm. The PaGWIS database indicates this well is located at 626 Wyndamere Road.
- e. One 35-foot-deep well specified as “unused” was installed in 2014 and owned by Cycle Chem (550 Industrial Drive). This is groundwater monitoring well MW-6, which was drilled offsite in 2014 as a result of an ongoing groundwater assessment due to the detection of TCE contamination at Cycle Chem’s onsite well MW-2 location (Appendix B: Figure 22).
- f. Two wells specified as “public supply” were documented as 35 and 75-foot-deep wells and the installation dates and well yields were not included. These wells are owned by Locust Manor MHP (Appendix B: Figure 18).
- g. Seven wells with unspecified uses are listed below:
- One 100-foot-deep well (unspecified use) installed in 1988 and owned by Fairview Construction with reported yield of 17 gpm. (PaGWIS coordinates place this well on Grandview Circle.)
  - Four 30-foot-deep wells (believed to be monitoring wells) installed in 1991 and owned by N. Amer. Van Lines with reported yields of 2 gpm. (PaGWIS coordinates place these wells east of I-83.)
  - Two 35-foot-deep wells (believed to be monitoring wells) installed in 1991 and owned by N. Amer. Van Lines with reported yields of 2 gpm. (PaGWIS coordinates place these wells east of I-83.)

Other well owners likely exist within a half mile of the facility in addition to those included in the PaGWIS database. Note: When many of these wells are mapped using the coordinates provided by PAGWIS, it appears that they are not properly located.

Cycle Chem presently has seven onsite groundwater monitoring wells that were installed at their 550 Industrial Drive property from 2009 through 2014 ranging from 25 – 37 FT BGS. These wells were not included in the PaGWIS database. TCE contamination has been documented at two of these onsite well locations (MW-2 and MW-8). As a result, CCI is currently conducting a groundwater assessment (see Appendix B: Figures 21 through 32).

- Four 25-foot-deep onsite groundwater monitoring wells were installed onsite in 2009 due to a compromised leak detection zone discovered beneath the Residual Waste building mixing pits. These wells are referred to as MW-1, MW-2, MW-3 and MW-4.
- Three (Two 25-foot-deep and one 37-foot-deep) onsite groundwater monitoring wells (MW-5, MW-7 and MW-8, respectively) were drilled in 2013/2014 as a result of the ongoing groundwater assessment due to TCE contamination being detected at the onsite monitoring well MW-2 location.
- One additional 35-foot-deep Cycle Chem groundwater monitoring well (MW-6) was drilled offsite in 2014 at the intersection of Industrial Drive and Grandview Drive for the TCE groundwater assessment. Note: MW-6 is included above under the PaGWIS “unused” water use status section.

On January 11, 2012, PADEP requested that CCI conduct a new ACT 108 private well survey due to there appearing to be numerous private wells in the area. At that time, CCI was monitoring private wells at only 4 properties per ACT 108, §6020.304(c)(1) which states: *“Upon written request from persons owning property within 2500 feet of a commercial hazardous waste storage, treatment or disposal facility, the operator of the facility shall have quarterly sampling and analysis conducted of private water supplies used by those persons for drinking water...”* The 2012 updated private well survey revealed 70 possible ACT 108 private well locations located within a 2,500-foot radius of CCI. In April/May 2012, CCI mailed out a letter and well survey to each of the locations at PADEP’s request to verify whether or not a private water well was located at their property, and if YES, was it being used for drinking water purposes. As a result of the well survey, seven property owners elected to have their private wells sampled by CCI per ACT 108 requirements. Ten property owners chose to not have their private wells sampled, but to receive CCI quarterly groundwater data instead as an “Early Warning Participant”. Another property was a business which does not fall under the ACT 108 groundwater sampling requirements, and as a result was removed from the Act 108 list of potential candidates. The remaining property owners did not reply to the ACT 108 well survey. CCI provided certified mail receipts to provide documentation to PADEP that the surveys were mailed/received.

Sewerage at both the 550 and 560 Industrial Drive properties was initially managed by onsite septic systems; however public sewer was brought into the industrial park in 1990. No removal/disconnection of the former septic system records were located in the agencies’ files.

### **3. Surface Water/Sediment:**

A curbed concrete secondary outdoor containment area (SWMU 20) completely surrounds the CCI facility operations area and five stormwater drains located within the secondary containment curbing discharge to the Stormwater Retention Pond (SWMU 1) located on the southeast side of the facility. The discharge is monitored via an NPDES permit. Stormwater from the remaining portions of the



property outside the waste handling areas leave via natural percolation/flow via flat grassy areas and grassy drainage ditches. The facility is situated approximately 2,000 feet east of Fishing Creek and adjacent to an old historic stream which drains into an unnamed tributary to Fishing Creek. The NPDES outfall drains into the area of the old historic stream. Drainage from the facility does not reach Fishing Creek as sheet flow.

According to information obtained from the PADEP eMapPA (accessed March 4, 2015), Fishing Creek is a tributary to the Susquehanna River and is within the Chesapeake Bay Watershed. Fishing Creek is listed as a source for public water supply (PA American Water Riverton District) and a cold water and trout stocking fishery. It is listed on the streams integrated list as an attaining segment supporting aquatic life. The historic stream directly adjacent to CCI on the southeast side changes to unnamed tributary designation approximately 0.5 miles downstream where it is classified on the streams integrated list as an attaining segment supporting aquatic life, but as a non-attaining segment impaired due to construction siltation; habitat modification, or other habitat alterations in the vicinity of the facility.

Wetlands were not identified onsite during a Preliminary Wetlands Assessment conducted for REMTECH by RTES in 1991. During this time period, a possible wetland area was noted within 300 feet of the facility's eastern property boundary that received discharge from the facility's stormwater collection system; however the facility indicated that this was a man-made area that spanned a 10-foot-diameter area around the NPDES outfall pipe. This area did not qualify as an important wetland as rated by PADEP regulatory criteria based on the Preliminary Assessment. This area is not included on the National Wetlands Inventory database (accessed on March 4, 2015). A wetland was identified approximately 700 feet northeast of the CCI facility as noted on Appendix B: Figure 18 via the National Wetlands Inventory GIS layer; however this area does not receive surface water sheet flow from CCI waste handling areas.

#### **4. Soil:**

##### **a. 550 Industrial Drive:**

According to the USDA and SSURGO Soils databases (accessed on March 4, 2015) the majority of the soils underlying the CCI facility at 550 Industrial Drive consists of Readington Silt Loam, 3 to 8 percent slopes (ReB). Readington Silt Loams have a medium runoff potential, moderately slow permeability and are moderately well drained soils. They provide farmland of statewide importance. USDA also documents the Readington Silt Loams as gently sloping, deep, moderately well drained soil on broad uplands and in depressions. Slopes are smooth or concave. Areas of this soil are irregular or long and narrow in shape and range from 5 to 100 acres in size.

On the south side of the facility in the vicinity of SWMU 1, Croton Silt Loam is mapped with 0 to 3 percent slopes (CrA). Croton Silt Loams have a potential for very high runoff, are impermeable and poorly drained soils, and not considered prime farmland. USDA indicates that Croton Silt Loams are nearly level, deep, poorly drained soil on lowlands and in depressions and drainageways. Slopes are smooth or concave. Areas of this soil are irregular or long and narrow in shape and range from 5 to 150 acres in size.

A small area on the west side of the facility consists of Penn Silt Loam, 3 to 8 percent slopes (PeB). Characteristics of Penn Silt Loam include low runoff potential, moderate permeability and well drained soils, and all areas are considered prime farmland. According to USDA, Penn silt loams are generally gently sloping, moderately deep, well-drained soil on undulating uplands. Slopes are smooth and convex and areas of this soil are irregular in shape and range from 5 to 400 acres in size.

The soils encountered during environmental investigations noted the following:

- February 13, 2002: *Summary Report - Determination of Depth to Groundwater and Rock*: Soil borings indicated that the investigative area was underlain primarily by dusky-red, silt, silty sand, sand, and clayey silt; which represented weathered components of the underlying bedrock, observed as a dusky-red shale and silty sandstone. Refusal depths ranged from 6 to 19 FT BGS. Weathered bedrock was observed from 8 to 16 FT BGS. The shallow 6 FT BGS refusal depth was attributed to the presence of a quartz cobble and not weathered bedrock. The groundwater flow direction in the unconsolidated materials was documented to the north, northeast.
- Soils encountered during ARM's subsurface investigation in 2013/2014 via soil borings completed for the TCE groundwater assessment revealed reddish brown: silt, clay, fine-grained sand, silty sand and weathered shale. Onsite refusal depths ranged from 7 to 9 FT BGS.

Access to the property is restricted because the facility operations are conducted within a fenced-in area. The hazardous and residual wastes are handled within buildings or within the curbed/concrete outdoor containment area (SWMU 20).

b. 560 Industrial Drive:

According to the USDA and SSURGO Soils databases (accessed on March 4, 2015) the majority of the soil underlying the B&C Fasteners site at 560 Industrial Drive is Penn Silt Loam with 3 to 8 percent slopes (PeB). A small portion of the northeast and southeast corners consists of Readington Silt Loam with 3 to 8 percent slopes (ReB). These soils were described above for the 550 Industrial Drive property.

#### **D. Exposure Pathway Controls and/or Release Controls Instituted at the Facility**

1. Air:

The USEPA has requested that the vapor intrusion (VI) pathway be evaluated as part of the EI process. The PADEP Land Recycling Program *Technical Guidance Manual – Section IV.A.4 (Vapor Intrusion into Buildings from Groundwater and Soil under the Act 2 Statewide Health Standard - 2004)* can be applied to both residential and nonresidential receptors. This guidance provides decision matrices for soil and groundwater (under a Statewide Health, generic approach) for determining if indoor air quality may be of concern. As prescribed in the PADEP VI guidance document, inhabited structures located within 100 feet of any potential source areas should be evaluated for a potential VI pathway. Note: The PADEP VI guidance is in the process of being updated. Under the new draft proposal (2015-2016), non-petroleum contaminated groundwater or soil situated within 100 feet horizontally (proximity distance) of an existing or future inhabited building is a potential VI source based on soil or groundwater screening values within proximity distance. Both PADEP documents were used to evaluate potential VI pathways in this report.

a. 550 Industrial Drive:

Air problems have been documented over the years at the 550 Industrial Drive property as a result of poor waste handling practices and were described in *Section C - Description of Exposure Pathways for all Releases or Potential Releases*. The facility has always responded/corrected the problems to the Department's satisfaction. Employees working within the facility wear personal protective equipment (PPE) including respirators if necessary when working with open containers of wastes in the residual and hazardous waste storage/unloading/loading areas and mixing pit/processing areas. Vented and atomic absorption fume hoods are used inside the laboratory when personnel conduct compatibility and hazardous

waste testing of incoming wastes. As long as these waste handling facility jobs are conducted in accordance with proper PPE and the PPC plan, no air issues are present for these workers. The two hazardous waste ASTs are monitored via the State Only Operating Permit 67-03046 so do not create a potential air problem at the facility.

As a result of the onsite TCE contaminated groundwater plume initially detected at Well MW-2 location during the September 27, 2012 groundwater sampling event, PADEP requested that CCI conduct an environmental investigation (i.e. soil, groundwater, and/or vapors) in 2013, 2014 and 2015 to delineate the extent of the contaminated TCE plume. CCI attributed the TCE contamination to an offsite release of flammable waste liquids that occurred near the northeastern entrance to the CCI property in February 2012 as a potential source of the TCE and other VOCs in groundwater at MW-2. This release was associated with an overturned, drummed waste spill from a transport truck. The drummed waste was being transported by AEG for Southern States Cooperative, Inc., and was not related to the CCI property or operations. PADEP's review letter dated January 28, 2014 pertaining to CCI's January 10, 2014 GAR concluded that "*clear and convincing evidence*" had not yet been provided in accordance with PADEP's SWMA Act 97; Article VI. Enforcement and Remedies; SECTION 611 and requested additional environmental investigation. This Act states that: "*It shall be presumed as a rebuttable presumption of law that a person or municipality which stores, treats, or disposes of hazardous waste shall be liable, without proof of fault, negligence, or causation, for all damages, contamination or pollution within 2,500 feet of the perimeter of the area where hazardous waste activities have been carried out. Such presumption may be overcome by clear and convincing evidence that the person or municipality so charged did not contribute to the damage, contamination, or pollution.*"

Soil sampling in 2014 did not reveal any concerns in the vicinity of offsite Well MW-6, located in close proximity of the AEG spill area, and TCE contaminated onsite Well MW-2. An additional groundwater monitoring well (MW-7) and soil vapor well (B-4) were installed in 2014 in-between Well MW-2 and the adjacent commercial facility located approximately 185 feet east of the TCE contaminated Well MW-2. VOC groundwater analytical results for Well MW-7 from two sampling events (November, 4, 2014 and January 22, 2015) did not reveal any TCE detections, but did document a low concentration of Toluene (4.6 µg/L) on one occasion. The soil vapor well was sampled twice (August and November 2014). Constituents were detected during both soil vapor sampling events such as: acetone, benzene, n-butane, 2-butanone, tert-butyl alcohol, chloroform, chloromethane, cyclohexane, 1,3-dichlorobenzene, 1,4-dichlorobenzene, dichlorodifluoromethane, ethanol, ethylbenzene, 4-ethyltoluene, heptane, hexane, isopropyl alcohol, isopropylbenzene, 4-methyl-2-pentanone, methylene chloride, naphthalene, iso-octane, n-propylbenzene, propylene, styrene, tetrahydrofuran, toluene, trichlorofluoromethane, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 1,2,3-trimethylbenzene, and/or xylenes; however the concentrations were below their respective PADEP Residential and Nonresidential MSC<sub>SG</sub>. TCE was not detected during either of the soil vapor sampling events. Well MW-8 was drilled in-between the CCI facility operations and contaminated Well MW-2 to further delineate the TCE groundwater plume and TCE (148 – 169 µg/L) was documented at this newly drilled well location during the November 4, 2014 and January 22, 2015 groundwater sampling events.

A second public water line connection was noted on the east side of the RW Building during the August 22, 2014 EI inspection. In December 2014, PADEP questioned the location of the public water line on the CCI property; and as a result, CCI subsequently provided a utility map (Appendix B: Figure 19) indicating that the actual water line in the vicinity of the front employee parking lot traverses east-west and not north-south as noted on the facility site map

(Appendix B: Figure 6 and Figure 14). As a result of the TCE contaminated Well MW-8 being located within 95 feet of the CCI facility office building and the public water line intercepting the underlying shallow TCE groundwater plume beneath the front employee parking lot, PADEP recommended that additional soil vapor sampling be conducted in the CCI office building to determine if there was an indoor air concern for the CCI office workers. Over the years, the onsite groundwater monitoring wells have documented depth to water ranging from 3 to 16 FT BGS. PADEP also recommended additional soil vapor sampling in-between the underlying shallow TCE groundwater plume and the neighboring offsite business to the east due to the underlying public water line extending towards the east side of the CCI property, as noted on the Appendix B: Figure 19 site map.

Cycle Chem's Supplemental GAR 3 dated July 29, 2016 documented two rounds of additional soil vapor sampling that was conducted via three soil gas sampling points V-1, V-2, and V-3 (Appendix B: Figure 23) on December 21, 2015 and March 17, 2016. The laboratory results for the soil gas samples collected on 12/21/2015 and 3/17/2016 were compared to the applicable PADEP Act 2 Statewide Health soil gas Medium-Specific Concentrations ( $MSC_{SG}$ ) in addition to the proposed 2015 PADEP  $MSC_{SG}$ . The  $MSC_{SG}$  is a function of the Indoor Air Medium-Specific Concentration ( $MSC_{IAQ}$ ), and a transfer (or attenuation) factor of 0.01 applies in going from outside to inside the building. Current PADEP Act 2 Residential and Non-residential  $MSC_{SG}$  for TCE are  $1.2 \text{ mg/m}^3$  and  $4.8 \text{ mg/m}^3$ , respectively.

Laboratory results indicate similar constituents of potential concern were detected in each of the soil gas samples as noted above during the 2014 sampling events in addition to: 1,2-dichlorobenzene, cis-1,2-dichloroethene, di-isopropyl ether, ethyl acetate, Freon 113, MTBE Trichloroethene and/or Tetrachloroethene. All of the detected concentrations were below the applicable PADEP Act 2 Statewide Health  $MSC_{SG}$  for each constituent in all three soil gas samples during both sampling events. For comparison purposes, outdoor soil gas sample location V-1 on the east side of the property was nondetect for TCE ( $<0.001 \text{ mg/m}^3$ ) during both soil gas sampling events. In regards to the indoor CCI office building subslab soil gas samples: Location V-2 revealed TCE concentrations at  $0.0023 \text{ mg/m}^3$  and  $0.0039 \text{ mg/m}^3$  and Location V-3 revealed TCE concentrations at  $0.0056 \text{ mg/m}^3$  and  $<0.001 \text{ mg/m}^3$ . Based on the inferred groundwater flow directions, and the measured TCE concentrations in soil gas samples V-2 and V-3 collected on 12/21/15 and 3/17/16, the intrusion of VOC vapors to indoor air is not an exposure pathway of concern for Cycle Chem's office building. Additionally, based on the results of the soil vapor samples collected at outdoor soil gas sample location V-1, along the eastern edge of the Cycle Chem property, the TCE groundwater plume is not presenting any offsite exposure risks of potential concern with respect to vapor intrusion. Due to these findings and conclusions of this supplemental assessment, additional soil borings, monitoring wells or soil gas sampling activities were not recommended by ARM. The Supplemental GAR3 indicated that TCE contamination in groundwater had been delineated to a small area surrounding onsite wells MW-2 and MW-8, the mostly likely source continues to be a potential historical release, there were no current or anticipated future exposure risks of concern from vapor intrusion or groundwater use, and the TCE concentrations indicate a downward trend as a result of natural attenuation processes.

b. 560 Industrial Drive:

The former potential air emission sources (residual waste storage area, open floor trenches, slop tank, solvent parts cleaner unit, and USTs) are no longer present at the B&C Fastener's property because current use of the facility is not related to the previous operations documented in the *September 1993 Final RFA*. B&C does use an AQ-1 Safety-Kleen parts washer unit in the

indoor workshop. This unit uses an aqueous water-based solution instead of solvent-based for cleaning parts. Safety-Kleen picks up the waste solution on a monthly basis. As long as the unit is properly used/maintained in accordance with safety procedures, there is no concern for air emissions from this unit at the 560 Industrial Drive property.

## 2. **Groundwater:**

### a. **550 Industrial Drive:**

CCI routinely conducts quarterly groundwater sampling at the 550 Industrial Drive property from 4 onsite groundwater monitoring wells that were installed in 2009 due to a compromised RW mixing pit leak detection zone. As previously mentioned, four additional onsite/offsite groundwater monitoring wells were installed in 2013/2014 due to elevated concentrations of TCE being detected at the onsite groundwater monitoring well MW-2 location in 2012. CCI believes the contamination is related to the February 1, 2012 AEG spill which occurred directly across Industrial Drive from the CCI East entrance gate. The spill report indicated the contents of the drum as “nonhazardous oily debris” waste. Nevertheless PADEP requested CCI to investigate in order to provide burden of proof and to ensure that the elevated TCE plume is properly characterized and addressed. To date, CCI has collected groundwater/soil/soil vapor samples to help delineate the aerial extent of the TCE contaminated groundwater plume. As previously discussed in *Section B.7.r - Hydrogeology Assessment – First Quarter 2013 to Present-Day*, two onsite CCI shallow groundwater monitoring wells have documented concentrations of TCE above the 5 µg/L PADEP Act 2 Residential/Nonresidential MSC<sub>GW</sub> (as high as 418 µg/L at Well MW-2 and 169 µg/L at Well MW-8).

Volatile organic compounds have not been detected at the Act 108 residential well locations. Sodium, TDS and chloride have been documented at several locations, but the detections appear to be related to the private water well treatment system (i.e. water softener) and not the CCI facility. Manganese has been routinely detected at one property (ranging from <50 to 71 µg/L) which is above the 50 µg/L guideline established for the USEPA Secondary Drinking Water Regulations, but below the 300 µg/L USEPA Lifetime Health Advisory Limit. Secondary Drinking Water Regulations are non-enforceable Federal guidelines for public water systems pertaining to cosmetic effects (such as tooth/skin discoloration) or aesthetic effects (such as taste/odor/color) of drinking water. Lead and nitrates were detected sporadically over the early years of sampling, slightly above their respective groundwater MCLs; however since 2007 concentrations detected have been below the USEPA public drinking water Maximum Contaminant Levels (MCLs).

Note: the HMW Enterprises, Inc. (HMW) facility, located on the east side of I-83 and about 2,200 feet northeast of CCI, had groundwater issues documented since the 1980s. Several homeowner wells downgradient of the former HMW site, and ≥ 2,600 FT northeast of CCI, had chlorinated solvents detected in the past and some of these properties have since been bought out by HMW and/or had filtration systems installed. Environmental covenants have been finalized for three of these residential locations along Wyndamere Road and the HMW property located along Salem Road. One nearby residential property (621 Wyndamere Road) has been on CCI’s ACT 108 listing since 2012 and VOCs and SVOCs have been nondetect at this well location. This private well was also sampled in 2008 by PADEP’s Environmental Cleanup and Brownfields Program (HSCA) and no evidence of volatile organic compounds were detected at that time.

The Supplemental GAR3 dated July 29, 2016 indicates that the TCE groundwater contamination is limited to a small area surrounding Well MW-2 and MW-8, and Cycle Chem believes the mostly likely source is the historical AEG spill in 2012. As documented in the GAR3, there are no current or anticipated future exposure risks of concern from groundwater use, and the TCE concentrations indicate a downward trend as a result of natural attenuation processes. However, to further assess the groundwater flow and natural attenuation processes, ARM recommended that monitoring wells MW-5 through MW-8 be measured for groundwater elevations, and monitoring wells MW-6 through MW-8 be sampled for VOCs, for at least the next two quarterly sampling events (Third Quarter 2016 and Fourth Quarter 2016), concurrent with the sampling of MW-1 through MW-4. Following the review of that information, recommendations for increased or reduced monitoring, in-situ treatment, and/or other measures deemed appropriate will be presented in future quarterly groundwater monitoring reports. PADEP agreed to these recommendations.

b. 560 Industrial Drive:

It is unknown if the private drinking water well at the 560 Industrial Drive property was ever abandoned; however the 1993 soil and groundwater investigations conducted at the 560 Industrial Drive facility for Remtech did not reveal any environmental problems. The 1993 Tethys report documented that the 560 Industrial Drive private well (Appendix B: Figure 16) had been sampled and analytical results indicated that all volatile organics and aromatics, including benzene, toluene, and ethylbenzene were below USEPA and PADEP drinking water standards. The present day 550 Industrial Drive CCI groundwater monitoring well MW-1 (located downgradient of the 560 Industrial Drive property) also has not documented any groundwater contamination concerns. Additionally, PADEP collected an unpurged groundwater sample from the 550 Industrial Drive original well (drilled in 1979) just prior to the well abandonment on January 23, 2015 and the laboratory analytical results indicated that there were no detections of organics above current USEPA drinking water standards. Only acetone, methylene chloride, and t-butyl alcohol were detected at very low concentrations. As a result of these downgradient wells not revealing any concerns, there is no reason to believe there is a groundwater issue at the 560 Industrial Drive property. Based on this information it is not expected that groundwater is contaminated at the 560 Industrial Drive property as a result of past or present facility operations. Therefore, no controls are deemed necessary for this facility.

c. Public Water:

Discussions with the PADEP Safe Drinking Water Program (SDWP) revealed that there are two major public water companies in the area - Pennsylvania American Water Company (PAWC) and United Water. PAWC provides public water to many of the residents/businesses located northwest to northeast, west, and southwest to south of the CCI facility. United Water (Newberry System) provides public water to residents/businesses located southeast of the facility. Two mobile home parks, one located 3,500 feet to the northeast and one about 9,400 feet to the southeast provide water to the mobile home park residents via private wells. PAWC obtains their water from surface water intakes and wells, located over 4 miles northwest to northeast of the CCI facility, and these areas do not receive drainage from the facility. The Newberry System uses water from 9 wells that are located between 6,300 to 14,000 feet southeast of the CCI facility.

SDWP required several public water wells classified as transient/non-community wells in the vicinity of CCI to analyze for VOCs in 2012. One well location revealed Tetrachloroethylene at 0.000514 µg/L, below the public drinking water USEPA MCL of 5 µg/L; however TCE was nondetect at < 0.005 µg/L. This restaurant well (Nonna's Pizza), located approximately

3,200 feet northeast of CCI and on the east side of Interstate 83, does not receive groundwater flow from the CCI facility. According to the PADEP SDWP, this restaurant well was recently abandoned and the business now uses public water. All other transient/non-community well locations were nondetect for organics.

d. Summary:

Although there is known shallow groundwater contamination on the CCI facility property, groundwater is not used on this property. Several potential downgradient receptors (residential wells to the northeast, east and southwest to southeast) have been or are currently being monitored by CCI per Act 108, and these wells have not been impacted. Cycle Chem downgradient groundwater monitoring wells MW-3 and MW-4, sampled since 2010, have always been nondetect ( $<1 \mu\text{g/L}$ ) for TCE. At the present time, there does not appear to be a direct exposure pathway for the groundwater used in the vicinity of Cycle Chem.

3. Surface Water/Sediment:

The outdoor containment area (SWMU 20) is located within the fenced area of the CCI property and consists of a sloping concrete base surrounded by a one-foot curb constructed with chemically-resistant water-stopped seal joints. Spills can be contained via an isolation valve which is closed during facility operations to prevent accidental discharge due to spills. Surface waters from the outdoor containment area are discharged to the onsite Stormwater Retention Pond (SWMU 1) and eventually discharged via an outfall in accordance with the NPDES permit. This outfall drains into a swale which drains to a dry stream (unnamed tributary). This dry stream ultimately drains into two unnamed tributaries that drain into Fishing Creek. The closest water supply intake located downstream from the discharge is Wrightsville Water Co. on the Susquehanna River Creek near Wrightsville Borough, York County. The distance downstream from the discharge to the intake is approximately 26 miles. Reportedly, the discharge has no impact on the water intake. No High Quality Waters are impacted by this discharge. No Exceptional Value Waters are impacted by this discharge. No Class A Wild Trout Fisheries are impacted by this discharge.

The surface water is sampled and analyzed in accordance with the NPDES permit and records are kept on file at the facility regarding the discharges. Records of discharges are reported with the monthly discharge monitoring reports filed with the Department. Containment booms are located in the pond such that any floating materials would not be allowed to exit via the emergency spillway, and would instead be contained by the booms.

Several events occurred in the past which required REMTECH to sample soils/sediments and/or stormwater basin water and properly remove soils/sediments and/or stormwater basin surface water if necessary. Stormwater discharges are routinely monitored and can be controlled if needed. Groundwater contamination has been documented in the vicinity of the facility; however groundwater discharges to surface water are not anticipated. The surface water/sediment exposure pathway is not relevant and no controls are deemed necessary at this time.

4. Soil:

Past waste management practices at the facility led to releases of hazardous constituents to the soils. Prior to the installation of the Outdoor Containment Area (SWMU 20), limited or no secondary containment features were associated with the SWMUs located at the facility. There were numerous documented releases to the soils, specifically at the Unlined Container Storage Areas (SWMU 3), the Former USTs (AOC A), the Boiler UST (AOC B), and the Keller USTs (AOC D). Sampling conducted at the facility often consisted of only composite soil samples and/or an insufficient number to justify that no impact to the soils at the facility had occurred. Soil analytical data could not be found in the files for some of these incidents; however they are also included below as a result of summaries from miscellaneous correspondence.

a. 550 Industrial Drive

**1983:**

A PADEP inspection conducted on December 8, 1983 noted numerous small spills of various materials including hazardous waste oils and apparent sewage sludge around the facility.

**1984:**

A ram for a rolloff was observed in the Unlined Container Storage Area (SWMU 3) during a June 27, 1984 PADEP inspection. The ram reportedly contained a white powdery and black oil material. A small drum (reportedly containing motor preserver) was also observed by the PADEP inspector leaking onto the surrounding soils near the garage area.

**1985:**

PADEP noted during the April 4, 1985 inspection that truck hoses were stored on the bare earth. Drippings from the hoses resulted in some small spots (less than one square foot in area) of contaminated soil. The small spots were removed and placed in a rolloff with other wastes of similar type.

**1986:**

1) Soil samples were collected from each of the following areas on the IWR property in January 1986: the outlet of the pipe of the tank farm drainage system (associated with the Former Mounded Tanks, SWMU 18), the outlet structure of the stormwater impoundment (the Former Stormwater Retention Pond, SWMU 2), and the drainage swale just east of the tank farm. These three samples were composited into one sample. An additional composite sample was collected from three points in a low area outside the fenced area of the facility (in the vicinity of the existing Stormwater Retention Pond - SWMU 1). The samples were collected for volatile organics, pesticides/herbicides, oil/grease, arsenic and the specific heavy metals of chromium and lead. The volatile organics, pesticides/herbicides were nondetect. The heavy metal concentrations were within the typical range of metals in soils. Elevated oil/grease levels were detected at 12,300 and 23,300 mg/kg.

2) Additional background soil samples were collected on April 22, 1986 from soils excavated south of the truck garage (Storage Area C, SWMU 7). When these samples (which were not described as composite samples in the available file material) were analyzed for the same parameters as the January 1986 background soil samples, elevated levels of lead were detected (504 mg/kg), outside the normal range. As a result, USEPA toxicity testing was requested and the analytical results indicated that the soil had no leachable hazardous levels of EP toxic metals. Oil and grease was documented at 6,264 ppm.

3) On June 25, 1986, PADEP informed IWR that soil samples should be collected after removal of each of the five mounded waste tanks (Tanks #1 through #4 and Tank #8) located at 550 Industrial Drive. This area was designated as SWMU 18 in the *September 1993 Final RFA Report*. It was recommended that the samples be analyzed for metals, organics, and inorganics. The rinsewater from the third rinse for each tank were recommended to be analyzed for volatile organic compounds to verify the tanks were appropriately decontaminated. IWR removed the mounded tanks in November 1986. Analytical results of two composite soil samples collected directly from beneath the excavated tanks (one representing Tanks #1, #2 and #8 and one representing Tanks #3 and #4) were provided to PADEP as part of the facility's partial closure certification. A complete analysis for volatile organics, pH, oil/grease, solvents scan, EP Toxicity (metals), cyanide and phenols was



conducted. No volatile organics or petroleum distillates were detected above detection limits. These samples also did not exceed toxicity levels. Oil/grease ranged from 308 mg/kg (Tank #3 and #4 composite) to 1728 mg/kg (Tank #1, #2 and #8 composite). Although soil surrounding Tank #8 was analyzed for metals, one sample (Tank #8, Manway – Spill Area, Soil) was apparently not analyzed for metals. The “Tank #8, Manway – Spill Area, Soil” had been segregated and hand excavated into two 55 gallon drums. This was done because the field sampler suspected that during the use of Tank #8, a small amount of liquid may have overflowed from the Manway and seeped into the adjacent soils. WLSI Field Sampling Report dated November 18, 1996 indicated that an organic vapor analyzer (OVA) was used to test for the presence of volatiles from the ground surface in the vicinity of Tanks #1, #2, and #8 during the excavation activities. The instrument was calibrated before, during and after sampling. Sampling occurred every two feet around each tank and in numerous areas over an excavated pile of soil from the Tank #8 area. The OVA instrument readings did not exceed 1 parts per million (ppm).

4) A hydrochloric acid spill occurred on a crushed limestone area within the Unlined Container Storage Area (SWMU 3) on July 23, 1986. The area was excavated to the subsoil base and treated by spreading lime and sodium bicarbonate over the gravel surface. PADEP was notified and approved the in-situ treatment.

#### **1987:**

Preliminary site assessment was conducted by Encotec in August 1987. Soil and groundwater samples were obtained through a hollow stem auger at 4 locations as noted on Appendix B: Figure 20. Soil samples were initially monitored using a PID meter. A field-filtered water sample from each boring and a soil sample taken from the one boring that gave positive PID readings (although very low) were analyzed for VOAs, SVOAs, PEST/PCBs, and heavy metals.

Analytical results for water collected from borehole # 2 (outside the fenced area in the swale, near the east property line) documented lead at 70 µg/L and thallium at 70 µg/L. Lead was also detected in the water sample collected from boring #3 (adjacent to the southeast corner of hazardous waste building) at 20 µg/L. For comparison purposes, the present-day PADEP Act 2 Residential/Nonresidential MSC<sub>GW</sub> for lead is 5 µg/L and for thallium is 2 µg/L. Methylene Chloride was also detected in exceedence of the PADEP Act 2 Residential/Nonresidential MSC<sub>GW</sub>; however it was also documented in the Method Blank (4 B J µg/L). Water samples were also found to contain benzene, toluene, dichloroethane, trichloroethane, and phthalates at levels of 5 ppb or less. The analytical results are documented in the summary table earlier in this EI report via *Section B.7.d - Encotec Preliminary Site Assessment Sampling Results (August, 1987)*.

#### **1988:**

A composite soil sample was collected by Benatec on December 15, 1988 from four borings on the IWR site located at 550 Industrial Drive. The four soil borings were drilled to refusal downslope of the former IWR building along a general line averaging 125 feet from the southern wall intercepted by lines 70 and 120 ft from the western fenceline and 20 and 100 ft from the eastern fenceline. A map of the boring locations was not included with the existing report. Soil from the four borings were combined as one composite soil sample and analyzed for USEPA Priority Pollutants (volatile and semi-volatile organics, dioxin, pesticides, PCBs, extractable organics, and heavy metals). The only USEPA Priority Pollutant detections documented in the composite soil sample were 3.67 mg/kg Bis (2-ethylhexyl) phthalate (DEHP), 3 mg/kg arsenic, 13 mg/kg chromium, 10 mg/kg copper, 7 mg/kg lead, 7 mg/kg

nickel, and 19 mg/kg zinc, all below the current PADEP Act 2 Residential/Nonresidential MSC<sub>SOIL</sub> that has been established for each constituent. The report mentioned that the level of DEHP measured in the soil sample was relatively low.

Three soil samples were also collected downgradient of the bituminous parking apron on the Keller property located at 560 Industrial Drive. The sample locations were selected on the basis of field observations and engineering judgment to determine the most likely flow pattern a fuel spill would take if one should occur. The locations were noted as: 1) at the pavement's eastern edge and downslope from the existing underground fuel tank; 2) at the pavement's eastern edge and 175 feet from Industrial Dr; and 3) at the pavement's southern edge and midway to the Keller building. The borings were drilled to four feet or refusal and analyzed for petroleum hydrocarbons and total organic Halogen. The analyses revealed petroleum hydrocarbons (as received and/or dry) ranging from 40 – 80 mg/kg and nondetectable total organic halides (<100 mg/kg).

**1989:**

1) The January 26, 1989 *Consent Order and Agreement (Section A.4 - Consent Order and Agreements/Consent Assessment of Civil Penalties)* required that construction of the new building extension could not be performed until area sampling/analyses confirmed no environmental pollution or the necessity for minor remediation. REMTECH soils were analyzed in the vicinity of the New Hazardous Waste Storage Area (SWMU 4) during construction of the facility expansion. These samples did not contain detectable levels of PCBs, dioxin, acid extractable priority pollutants, or volatile organic compounds; however, priority pollutant metals were detected. Therefore at the request of PADEP, REMTECH collected additional soil samples on August 22, 1989 at three random locations in the vicinity of the expansion for the New Hazardous Waste Storage Area (SWMU 4) (Benatec, Associates *September 1989 Soil Sampling Report*). Bis(2-ethylhexyl)phthalate (75 – 144 µg/kg), barium (50 – 75 mg/kg), chromium (7 – 11 mg/kg), copper (9 – 23 mg/kg), nickel (12 – 16 mg/kg), thallium (0.63 – 1.4 mg/kg), and zinc (13 – 15 mg/kg) were detected, all below the present-day (2015) PADEP Act 2 Residential/Nonresidential MSC<sub>SOIL</sub> that has been established for each individual constituent, except for bis (2-ethylhexyl)phthalate. The most conservative Act 2 MSC<sub>SOIL</sub> for this constituent is 130 mg/kg. The report documented that bis (2-ethylhexyl) phthalate is a common plasticizer found in several plastic environments including laboratories, and as a result was not considered significant.

The modifications were certified by REMTECH and an independent professional engineering firm. PADEP granted approval in mid-1990 to resume full operations using the new storage building. REMTECH obtained and complied with a stormwater discharge permit and best management practices were followed.

2) Soil samples were collected before and during removal of three product USTs (one 10,000-gallon diesel fuel, one 10,000-gallon gasoline, and one 10,000-gallon No. 2 fuel oil) at the 550 Industrial Drive facility. No evidence of leakage was noted during the removal of the USTs. Post-excavation composite samples were collected, which were analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX). Additional soil samples were field-screened using a PID. The samples were warmed to insure volatilization and the headspace was monitored. All samples exhibited background levels on the HNU. The field data indicated that no soil contamination had resulted from the USTs and the excavated soils were used to backfill the excavation. Field and laboratory analytical data could not be found in the files for verification purposes.

It was also noted that an out-of-service 1,000-gallon grease trap (SWMU 17) that separated the excavation was also removed. During its removal, a small amount of liquid from the grease trap escaped and collected below the grease trap. All soils visibly saturated from the release were removed and stockpiled for removal by REMTECH. No soil sampling of the area was mentioned in the report.

**1990:**

According to the REMTECH Spill Report, on August 9, 1990, approximately 200 gallons of D008 (Lead) hazardous waste liquid spilled into the Outdoor Containment Area (SWMU 20) during unloading operations. An estimated 100 gallons of waste subsequently flowed through an open valve into the Existing Stormwater Retention Pond (SWMU 1). The material was reportedly stratified in the pond and easily identified due to its black coloration. All obvious waste material was pumped out of the pond and cleaned from the valves and pipes leading to the unit; these wastes were reportedly disposed of at an off-site disposal facility. The remaining stormwater and retention pond sediment did not exceed toxicity characteristic regulatory levels. As a result of this spill, Remtech planned to install an oil/water separator in the Manway located in-between the stormwater collection system and the pond in order to contain future spills before flowing into the lined retention basin. Additional information documented in the report included: Retention Pond Volume calculations: August 16, 1990 = 106,575 gallons and August 23, 1990 = 429,948 gallons; and Retention Pond sample: VOCs were nondetect.

**1992:**

1) On October 22, 1992, REMTECH submitted to PADER a notice to close a 10,000-gallon fuel oil UST at their 550 Industrial Driver property as the facility had converted to gas heat. Note: The UST was identified in another section of the closure report as having 8,000-gallon capacity. Its location is shown on the north side of the property adjacent to Industrial Drive and the parking lot and was identified as Tank 67-09098-007. This tank is also referred to as Tank #7 and also AOC B in the *September 1993 Final RFA Report*. The UST was removed on February 24, 1993. Note: According to older maps (Appendix B: Figure 3, Figure 7, and Figure 12), it appears that the AOC B (Tank #7) may have been located more to the east than the AOC B location noted on the 1993 RFA map (Appendix B: Figure 9).

The excavation was dry and showed no evidence of hydrocarbon staining. The tank showed no evidence of pitting, rust, or other structural damage. Three soil samples were collected from directly beneath the UST and three additional samples were collected from three feet below the UST. The samples were analyzed for TPH and BTEX. TPH was detected above the regulatory limits in two samples. BTEX were nondetect in all six samples. Additional excavation was completed and two more soil samples were collected and analyzed for TPH. TPH was nondetect in the two samples and the excavation was backfilled with clean fill. The report concluded that the contamination detected may have been from overfilling past the fill line. On May 5, 1993, PADEP acknowledged receipt of the closure report and stated that based upon the information provided, the closure report was considered acceptable.

2) During an inspection on November 17, 1992, PADEP noted violations for REMTECH as follows: aisle spacing, inaccurate labeling, incomplete inspection records. PADEP also noted an area of stained grass near the curb on the west side of the facility. PADEP recommended thoroughly cleaning the drain to lessen chance of future overflows. The facility responded on November 23, 1992. An NOV was issued on January 4, 1993; Facility responded on January 29, 1993 and a CACP was finalized on April 27, 1993.

**1993:**

During the December 1, 1993 inspection, PADEP noted that the storm drain on the south end of the facility overflowed. A stain was observed on the grass, and soil and debris were present on and around the drain. PADEP recommended cleaning up the stained grass and the storm drain area. REMTECH stated this would be completed by the end of the day. No violations were noted on the inspection report.

**1994:**

A PADEP incident notification report dated November 11, 1994, stated that REMTECH had received verbal permission to discharge stormwater from the stormwater retention pond. However, REMTECH also removed the sludge and disposed of it across their fence onto the neighboring farm property. PADEP arrived on site and sampled the sludge for metals, TCLP and priority pollutants. PADEP also collected sludge samples from several locations on the south side of the pond on November 17 and 22, 1994 and analyzed them for VOCs, SVOCs, pesticides, herbicides, PCBs, TPH, TCLP VOCs, TCLP SVOCs, TCLP pesticides, TCLP herbicides, and/or TCLP metals. An NOV was issued on January 13, 1995, which noted that PADEP's sampling conducted in November confirmed that contamination (i.e. organic, inorganic, pesticides, herbicides, etc.) was present as documented in *Section B.7n - Onsite Disposal of Pond Sludge – 1994* of this EI report. REMTECH was required to remove all visible contamination and procure a consultant to prepare a proposal to determine the extent and degree of contamination remaining, if any, after the visibly contaminated soil was removed.

PADEP approved the SAP on April 12, 1995. On April 17, 1995, REMTECH notified PADEP that the cleanup was scheduled to begin the following week. REMTECH submitted an update for the cleanup activities including the laboratory analytical results for the soil samples to PADEP on May 4, 1995. It was concluded that satisfactory cleanup was achieved for the areas where impacted soils were removed. In addition, XRF analyses of the wetlands area showed that lead screening across the area approximated background levels. Therefore, disturbance of the wetlands area was deemed unnecessary, and no further cleanup was recommended. On July 5, 1995, REMTECH submitted to PADEP the *Certification Report – Stormwater Detention Pond Remediation* prepared by RTES dated June 1995.

This portion of the property was not developed until sometime after 2010 by the current owner (FedEx).

**1996:**

During the March 27 1996 inspection, PADEP noted that a residual waste rolloff container located in the outside residual waste drum storage area was leaking fluids onto the ground. The liquids were contained by absorbents. REMTECH stated the leak would be stabilized by the end of the day. Several areas just beyond the outside concrete curbed area had what appeared to be residual waste material, fly ash, and some dark stained soil and vegetation. REMTECH stated these were areas where the snow was piled. PADEP recommended the areas be cleaned up and any waste materials be removed from the surface of the soil or from the soil if the material was combined into the soil. REMTECH agreed to do this.

**2002:**

1) Kiln dust was observed on the grass behind the bulking operations in the outdoor staging and storage areas during PADEP's January 30, 2002 inspection.

2) According to a release report dated February 8, 2002, while Clean Venture was sitting

down an empty rolloff box outside the facility's east gate a hydraulic line on the tractor ruptured, releasing approximately 10 to 15 gallons of hydraulic fluid onto frozen ground. The affected area was covered in Speedi-dry absorbent and swept up. Subsequently, the soil in the area was removed to a depth of approximately 1 inch, and was processed with the residual waste at the facility.

**2003:**

1) During the September 17, 2003 hazardous waste inspection, a waste storage tote, with waste present in the bottom, was documented as being stored in the grass behind the bulking operation, which was considered storage off the permitted area and noted as a violation. This violation was included in the December 30, 2003 CACP.

2) During the September 17, 2003 inspection, PADEP observed a waste storage tote stored on the grass behind the bulking area with waste in the bottom, a rolloff container was leaking waste onto the ground and surrounding area, and fiber drums were not covered.

**2014:**

In March 2014, as noted on Appendix B: Figure 21, five soil borings were advanced to bedrock refusal offsite in the vicinity of the February 1, 2012 AEG spill at depths ranging from 3.5 – 7 feet below grade. Soil cores were collected continuously via macro-core sampler sleeves and screened with a PID for the presence of VOCs and visually inspected for staining or other signs of contamination. No odors or staining were observed, however a total of 2 soil samples were collected from locations that were considered to present the highest chance of TCE contamination based on PID readings and sample depths (SB-3 and SB-4). There were no detections of any VOCs in either of the soil samples. In April 2014, MW-6 was drilled offsite in the same area to a TD of 35 FT BGS as noted on Appendix B: Figure 21. During the April 17, 2014 groundwater sampling event, TCE was again detected at Well MW-2 (147 µg/L), whereas TCE was slightly detected at offsite Well MW-6 (1.1 µg/L).

In August 2014, four soil borings were advanced onsite in the vicinity of the front parking lot to refusal depths ranging from 7 – 9 FT BGS (Appendix B: Figure 22). No odors or staining were observed in any of the 4 soil borings; however 2 soil samples were collected in the vicinity of Well MW-2 from two locations that were considered to present the highest chance of TCE contamination based on PID readings and sample depths (Sample locations B-1 and B-2). Only methylene chloride was detected in these soil samples and the concentrations were below their respective PADEP Act 2 Residential/Nonresidential MSC<sub>SOIL</sub>.

**Summary:**

The majority of the soils at the CCI facility property are presently protected in the waste handling areas by the residual and hazardous waste storage buildings and concrete/curbed Outdoor Containment Area (SWMU 20) as long as seams/joints/cracks are routinely inspected and maintained. For areas where soil sampling was recommended in the past due to releases and soil sampling was never conducted, soil sampling was minimal, composite soil samples were collected, and/or analytical documentation could not be located in the files; it is recommended that future soil sampling be conducted in these areas when the facility goes through final closure. At the present time these soils are overlain by the facility hazardous waste building, the residual waste building, and/or the Outdoor Concrete Containment Area (SWMU 20). Additionally, some of these earlier impacted soils may have been excavated during the construction of the existing Stormwater Retention Pond (SWMU 1) in the northern section of AOC C, construction of the hazardous waste building addition, and construction of the residual waste building. As a result of these structures presently protecting soils beneath

the waste handling areas, the soil exposure pathway is not relevant to facility workers and no controls are deemed necessary at this time unless the existing TCE groundwater contamination is found to be related to an onsite source.

b. 560 Industrial Drive

**1988:**

As mentioned above, a composite soil sample was collected by Benatec on December 15, 1988 from four borings on the IWR site located at 550 Industrial Drive. Three soil samples were also collected downgradient of the bituminous parking apron on the Keller property located at 560 Industrial Drive. The sample locations were selected on the basis of field observations and engineering judgment to determine the most likely flow pattern a fuel spill would take if one should occur. The locations were noted as: 1) at the pavement's eastern edge and downslope from the existing underground fuel tank; 2) at the pavement's eastern edge and 175 feet from Industrial Dr; and 3) at the pavement's southern edge and midway to the Keller building. The borings were drilled to four feet or refusal and analyzed for petroleum hydrocarbons and total organic Halogen. The analyses revealed petroleum hydrocarbons (as received and/or dry) ranging from 40 – 80 mg/kg and nondetectable total organic halides (<100 mg/kg).

**1989:**

A report documenting 1989 sample/analytical data for the 560 Industrial Drive facility was not found in the files. A one page Remtech letter dated June 15, 1989 documented that during removal of a 500-gallon fuel storage tank at the Keller Building in June 1989 by Tank Technologies, Inc., the tank "had corroded severely and was found to have leaked diesel fuel into the surrounding soils." Approximately ten cubic yards of contaminated soils were excavated to bedrock/refusal and shipped offsite for incineration, but no sampling was apparently conducted in 1989 to determine if all contaminated soils had been removed. The area was later investigated in 1993.

**1993:**

Between 1989 and 1993, Remtech owned both the 550 and 560 Industrial Drive properties. Three USTs on the 560 Industrial Drive property had been previously removed in 1989 by Tank Technologies, Inc. (TTI), prior to PADER regulations requiring tank registration or closure reports); however during the tank removals, one of the three tanks was noted to have been corroded and soil contamination was noted. In 1993 Phase 1 and 2 investigations at the 560 Industrial Drive site were conducted by Tethys Consultants, Inc. (TCI) at the request of a potential buyer of the property. TCI recommended that the soils in the areas of the former USTs and the vehicle maintenance area floor drain and sink outfalls be sampled and analyzed for petroleum hydrocarbon contamination. Also, TCI recommended the floor drain and sink outfalls be plugged to preclude the possibility of further contamination.

Pursuant to TCI's recommendations, REMTECH initiated a soil boring program on July 8, 1993 (see Appendix B: Figure 16) at the reported location of the former USTs and encountered petroleum contaminated soils. A soil sample (#9) was also collected from the floor drain and sink outfall areas and the analytical results revealed no contamination.

Approximately 42 tons of contaminated soil was removed from the UST excavation, which measured 23.5 feet long, 11.5 feet wide, and 10.5 feet deep (2.5 feet into the shale bedrock). Clean excavated soil and 40 tons of 2A modified stone were used to backfill the excavation. Prior to backfilling, three confirmatory soil samples were collected from the UST excavation

sidewalls and analyzed for total petroleum hydrocarbons (TPH) and BTEX. All three soil samples had nondetectable levels for all parameters. A sample was also collected of the water that infiltrated the excavation and analyzed for TPH and BTEX. Low levels of TPH (9.4 ppm), ethylbenzene (0.039 ppm), and xylenes (0.115 ppm) were detected in the water sample. As a result, in July 1993, two 35-foot deep monitoring wells were installed (one in the excavation and one downgradient) and two rounds of groundwater samples were collected (July and August 1993) and analyzed for TPH and BTEX. TPH and BTEX compounds were not detected in the groundwater samples.

**Summary:**

In 1993, Remtech hired a consultant (Tethys) to perform Phase 1 and Phase 2 environmental assessments and subsequently prepare an UST final closure report, which was approved by PADER after soil and groundwater analytical results revealed constituents of concern below regulatory levels. As a result of the August 26, 2014 EI site inspection and review of file documentation, there does not appear to be any concerns pertaining to soil contamination. Additionally, the adjacent 550 Industrial Drive CCI facility is located downgradient of the B&C Fasteners site. CCI's shallow upgradient well (MW-1) and the original 200-Foot deep well (abandoned on January 23, 2015), well locations downgradient of the B&C Fastener's property, have not documented any groundwater contamination migrating from the B&C Fastener's property; therefore the soil exposure pathway is not relevant and no controls are deemed necessary at this time.

**E. Follow-up Action Items**

USEPA Region III will decide if additional information or sampling at the facility is required to determine whether or not the environmental indicators have been met or if corrective action is required for the facility.